SUPPLEMENTAL INFORMATION

DVR5100 Series
Digital Video Recorder

C2669M (4/07)

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Introduction

This document is an addendum to the DVR5100 Series digital video recorder (DVR) installation and operation manuals and provides an update on new packaging, equipment, and features of the DVR5100 Series.

This document covers the following topics (clicking on any topic in the list takes you directly to that section):

- DVR5100 Parts List
- USB PC Keyboard, Mouse, and Template for the DVR5100
- Auto Login
- Automatically Assigning Cameras to the Workspace
- Extending Video Retention by Changing Frame Rate
- Remote Client
  - Digital Zoom Controls
  - Timeline Synchronization in Quick Search

UNITS BEING UPDATED FROM A PREVIOUS SOFTWARE VERSION

To protect the system against the possibility of file and database corruption during the update process, the DVR5100 checks the integrity of the image on the CD before starting the update, and the database and system files after the update. If the update is not completed properly, the DVR5100 restarts using the existing operating system image. To check that the update is completed successfully, display the Help screen and check the version number. Note that the release number changes to reflect each new software release.

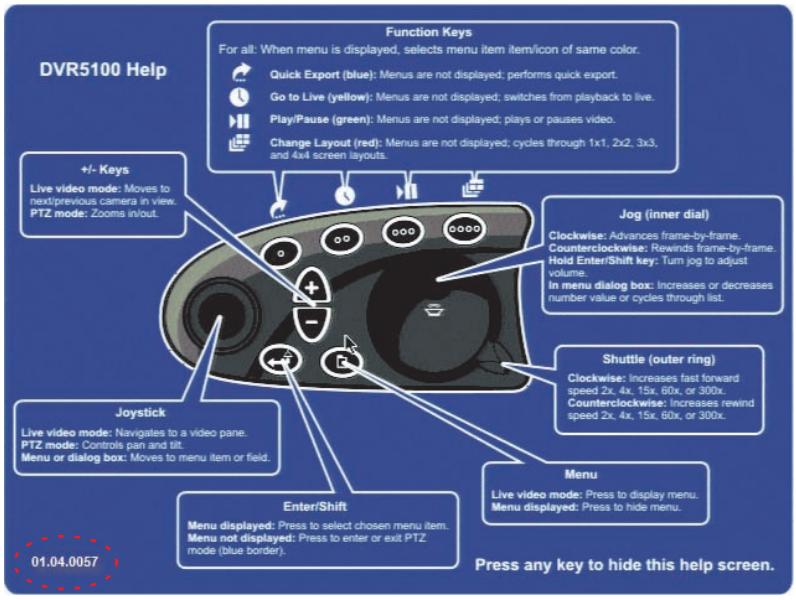
DVR5100 Help
Function Keys
For all: When menu is displayed, selects menu item item/icon of same color.
Quick Export (blue): Menus are not displayed; performs quick export.
Go to Live (yellow): Menus are not displayed; switches from playback to live.
Play/Pause (green): Menus are not displayed; plays or pauses video.
Change Layout (red): Menus are not displayed; cycles through 1x1, 2x2, 3x3, and 4x4 screen layouts.
+/- Keys
Live video mode: Moves to next/previous camera in view.
PTZ mode: Zooms in/out.
Jog (inner dial)
Clockwise: Advances frame-by-frame.
Counterclockwise: Rewinds frame-by-frame.
Hold Enter/Shift key: Turn jog to adjust volume.
In menu dialog box: Increases or decreases number value or cycles through list.
Shuttle (outer ring)
Clockwise: Increases fast forward speed 2x, 4x, 15x, 60x, or 300x.
Counterclockwise: Increases rewind speed 2x, 4x, 15x, 60x, or 300x.
Joystick
Live video mode: Navigates to a video pane.
PTZ mode: Controls pan and tilt.
Menu or dialog box: Moves to menu item or field.
Menu
Live video mode: Press to display menu.
Menu displayed: Press to hide menu.
Enter/Shift
Menu displayed: Press to select chosen menu item.
Menu not displayed: Press to enter or exit PTZ mode (blue border).
01.04.0057
Press any key to hide this help screen.

Figure 1. DVR5100 Help Menu

DVR5100 Parts List

A USB keyboard and mouse, and a keyboard overlay (template) have been added to the existing parts list.

Qty	Description
1	Pelco DVR5100 Series DVR
1	Rack-mounting kit:
2	Chassis mounting brackets with handles and thumb screws
8	Screws, 10-32 x 0.25-inch, Phillips, pan head (four for each bracket)
2	Adjustable support rail sets (each set includes one front-mounting rail and one rear-mounting rail)
6	Screws, 8-32 x 0.375-inch, Phillips, truss head
4	Screws, 10-32 x 0.5-inch, Phillips, flat head (two for each front-mounting rail)
4	Screws, 10-32 x 0.75-inch, Phillips, pan head (two for each rear-mounting rail)
10	Cage nuts (for use with square-hole racks)
1	USB PC Keyboard
1	USB Keyboard overlay (template)
1	USB PC Mouse
1–2	Terminal blocks for relays (one block for 4- and 8-channel models, two blocks for 16-channel models)
2–4	Terminal blocks for alarms (two blocks for 4- and 8-channel models, four blocks for 16-channel models)
3	Power cables (one USA standard, one European standard, and one UK standard)
2	Product identification labels (attached to unit)
3	DVR5100 Quick Start Guides
1	DVR5100 Installation manual
1	DVR5100 Operation manual (on resource CD)
1	DVR5100 Control Pad Quick Reference Guide
1	DVR5100 Remote Client Operation manual (on resource CD)
1	DVR5100 Recovery Instructions
1	Important Safety Instructions
1	Resource CD
1	Recovery disc

USB PC Keyboard, Mouse, and Template for the DVR5100

The DVR5100 provides a control pad on the front panel that allows you to access the unit's user interface (UI). A USB PC keyboard and mouse, and a keyboard overlay (template) are now included as an alternate method to accessing the UI. The control pad or the keyboard are used together to make selections in the UI to set up and operate the unit. The USB mouse provides a convenient method to navigate the setup and configuration menus.

The DVR5100 provides three USB ports: one USB port on the front panel and two USB ports on the rear panel. Any of the USB ports can be used to connect a USB PC keyboard and mouse to the DVR5100.

To connect a keyboard and mouse to the DVR5100:

1. Connect the USB mouse to the USB port on the front panel.
2. Connect the USB PC keyboard into one of the USB ports on the rear panel.

NAVIGATING THROUGH MENUS WITH A USB PC KEYBOARD AND MOUSE

Figure 2 illustrates the USB PC keyboard overlay (template). Table A lists the USB PC keyboard and mouse operations.

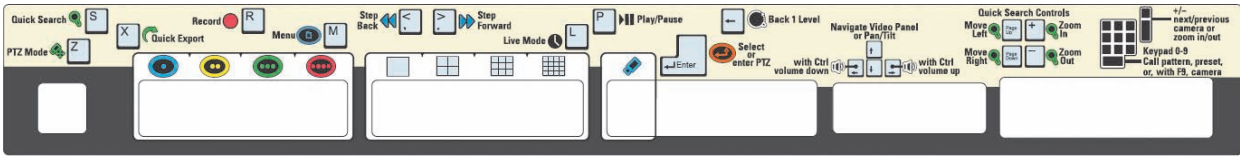

Figure 2. USB PC Keyboard Template

Table A. USB PC Keyboard and Mouse Operations

USB PC Keyboard	
Key	**Menu Operations**
Enter	Selects a menu item. Performs the same actions as the Enter/Shift key on the DVR5100 control pad.
F1-F4	Perform the same actions as the four color-coded function keys on the DVR5100 control pad.
F5-F8	Changes the screen layout from the single, 2 x 2, 3 x 3, and 4 x 4 display layouts respectively.
F9	Displays the Camera Selection dialog box.
Tab or + Tab	Moves to the next field or tab on a menu, or selects the next command on a dialog box or screen. Press +Tab to move to the previous field or tab on a menu.
Esc (Escape)	Closes a menu.
+ (Plus)	In live view mode, displays the next camera in the currently selected video pane. In pan/tilt/zoom (PTZ) mode, zooms in on the scene. In the menus, expands the device tree or increases a number in a text field. While viewing recorded video, advances the video one frame at a time.
- (Minus)	In live view mode, displays the previous camera in the currently selected video pane. In PTZ mode, zooms out of the scene. In the menus, closes the device tree or decreases a number in a text field. While viewing recorded video, reverses the video one frame at a time.
Down or Up Arrow	In PTZ mode, tilts the currently selected camera down or up. In the menus, selects the next or previous entry in a list on a menu or dialog box.
Ctrl + Down Arrow/Ctrl + Up Arrow	In the menus, increases or decreases the number in a field, or selects the next or previous entry in a list.
Right or Left Arrow	In PTZ mode, pans the currently selected camera right or left. In the menus, moves to the next or previous field on a menu or dialog box.

Table A. USB PC Keyboard and Mouse Operations *(Continued)*

Ctrl + Right Arrow/Ctrl + Left Arrow	Increases or decreases the audio volume.
Page Up or Page Down	Scrolls forward or backward through the timeline on the Quick Search dialog box, or selects the next or previous entry in a list on a menu or dialog box.
Backspace	Returns to the previous menu; performs the same action as turning the shuttle counterclockwise.
Alphanumeric keypad	Use any alphanumeric key on the keyboard to enter information in a text field such as a password, IP address, comment or other field. Do not enter characters that are not valid for the currently selected field. Refer to the specific instructions for the field for guidelines on valid entries. See the descriptions in this table for additional functions for specific characters.
< or , (comma)	Plays recorded video backward.
> or . (period)	Plays recorded video forward.
l	Switches the currently selected video pane to live view mode.
m	Displays the main menu.
p	In live view mode, plays or pauses the video in the currently selected video pane.
r	In live view mode, starts recording video in the currently selected video pane.
s	Displays the Quick Search dialog box for the currently selected video pane.
x	Opens the Quick Export dialog box.
z	Switch to PTZ mode.
USB PC Mouse (For configuration use only)	
Left-Click	Selects a menu icon, text field, or check box; executes a command key; and displays the next tab on a configuration screen. Point and click on an up or down arrow next to a text field to increase or decrease the number or to select the next or previous entry in a list.

Auto Login

The DVR5100 comes with four pre-defined user profiles: Administrator, Manager, Operator, and Guest. The first time you start the DVR5100, the system automatically logs in using the admin user after 60 seconds if an operator does not select a specific user at the login screen. This feature allows the system to automatically log in as the designated user each time the DVR is rebooted (for example, after a power failure or when the unit is restarted for any purpose). You can enable or disable the feature from the System Configuration screen. In addition, you can choose a specific user for subsequent log ins.

NOTE: As a security precaution, you should change the user ID for auto-login as part of the configuration and setup process. Consider selecting Guest as the default user ID or create a new user ID and password with limited access. Using a Guest user assures that system settings are not accessible inadvertently.

Table B lists the default user IDs and passwords. Figure 3 shows the login screen.

Table B. Default User IDs and Passwords

User ID	Password
admin	admin or 23646
manager	manager or 6262437
operator	operator or 67372867
guest	guest or 48378

Figure 3. Auto Login Menu

Automatically Assigning Cameras to the Workspace

The DVR5100 automatically assigns or prepopulates cameras to the workspace. Cameras are configured starting at the top left video pane and ending at the lower right video pane. Figure 4 shows a 2 x 2 configuration.

Figure 4. Auto Camera Assignment

Extending Video Retention by Changing Frame Rate

Traditionally, users looking to retain video for as long as possible were forced to compromise between recording at a lower quality and a lower frame rate. The DVR5100 now introduces a powerful alternative to achieving longer retention times.

Pelco's patented EnduraStor™ technology provides you with the ability to prune recorded video down to five images, three images, two images, one image, one image every two seconds, and one image every three seconds after a defined period of time. Instead of recording from the very beginning at a very slow rate, EnduraStor allows you to retain high frame rate video for the time period it is needed most. When programming the EnduraStor delay period, you can customize the storage options to suit your operation model. You can get the retention targets you are looking for while realizing the benefit of having 30/25 images per second (ips) video available for investigation and export. The DVR5100 now provides additional flexibility that allows you to optimize your recorded video to meet budget constraints.

Table C lists the recording rates.

Table C. Options for Picture Quality

Quality Options	Resolution	Frame Rate NTSC (PAL)	EnduraStor Rate
High 30/25	4CIF	30 (25)	2 images every second
High 15/12.5	4CIF	15 (12.5)	2 images every second
High 10/8.3	4CIF	10 (8.3)	2 images every second
High 6/5	4CIF	6 (5)	2 images every second
Medium 30/25	2CIF	30 (25)	2 images every second
Medium 15/12.5	2CIF	15 (12.5)	2 images every second
Medium 10/8.3	2CIF	10 (8.3)	2 images every second
Medium 6/5	2CIF	6 (5)	2 images every second
Low 30/25	CIF	30 (25)	2 images every second
Low 15/12.5	CIF	15 (12.5)	2 images every second
Low 10/8.3	CIF	10 (8.3)	2 images every second
Low 6/5	CIF	6 (5)	2 images every second
New Settings Added*			
High 5 images/second	4CIF	30 (25)	5 images every second
High 3 images/second	4CIF	30 (25)	3 images every second
High 1 image/second	4CIF	30 (25)	1 image every second
High 1 image/2 seconds	4CIF	30 (25)	1 image every 2 seconds
High 1 image/3 seconds	4CIF	30 (25)	1 image every 3 seconds
High 1 image/5 seconds	4CIF	30 (25)	1 image every 5 second
Medium 5 images/second	2CIF	30 (25)	5 images every second
Medium 3 images/second	2CIF	30 (25)	3 images every second
Medium 1 image/second	2CIF	30 (25)	1 images every second
Medium 1 image/2 seconds	2CIF	30 (25)	1 image every 2 seconds
Medium 1 image/3 seconds	2CIF	30 (25)	1 image every 3 seconds
Low 5 images/second	CIF	30 (25)	5 images every second
Low 3 images/second	CIF	30 (25)	3 images every second
Low 1 image/second	CIF	30 (25)	1image every second
Low 1 image/2 seconds	CIF	30 (25)	1 image every 2 seconds
Low 1 image/3 seconds	CIF	30 (25)	1 image every 3 seconds

*New settings are recorded at 30/25 ips unless EnduraStor is enabled, at which point recorded video is pruned to the designated image rate. For information on using EnduraStor, refer to the DVR5100 Series Digital Video Recorder Installation manual (C1695M).

Table D. Image Resolutions (in Pixels)

NTSC Resolutions	
4CIF	704 x 480
2CIF	704 x 240
CIF	352 x 240

PAL Resolutions	
4CIF	704 x 576
2CIF	704 x 288
CIF	352 x 288

NOTES:

- The default setting for the DVR5100 frame rate was formerly Low 30/25, EnduraStor not enabled.
- The default setting for the DVR5100 frame rates is now Low 1 image/second, EnduraStor enabled after 12 hours.

Remote Client

The DVR5100 Remote Client has the following new features:

- Digital Zoom Controls
- Synchronization in Quick Search

DIGITAL ZOOM CONTROLS

Similar to controlling PTZ on a camera, digital zoom controls let you zoom in on specific areas of the video that you are viewing. Digital zoom controls work on any video, not just on video recorded on a camera that supports PTZ functions. This feature is also available while viewing exported video with the Endura Player. To use digital zoom controls, you must be viewing video from a camera in single view (1 x 1).

1. Select a camera and switch to a 1 x 1 view.
2. Click the Digital Zoom button . The view displays the video with a picture within the picture.
3. Click the mouse anywhere in the view, and then roll the center wheel of the mouse away from you to zoom in. To zoom out of the picture, roll the center wheel of the mouse toward you.

To zoom in or out on a different area of the scene, press and hold the left mouse button anywhere in the picture, and then move the mouse in any direction. A white frame inside the smaller picture indicates which part of the video you are working with.

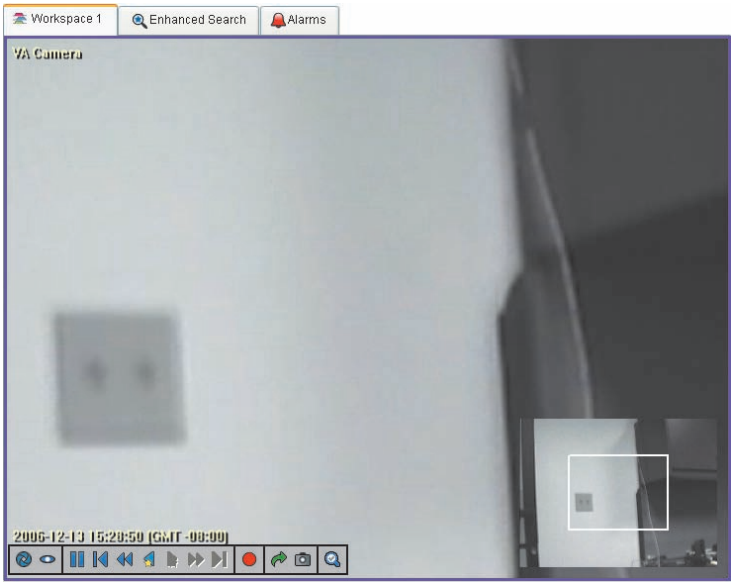

Figure 5. Digital Zoom Sample

TIMELINE SYNCHRONIZATION IN QUICK SEARCH

The cursor in the Quick Search display now tracks with the video. You can move the cursor to any point on the timeline to instantly play back video from that time.

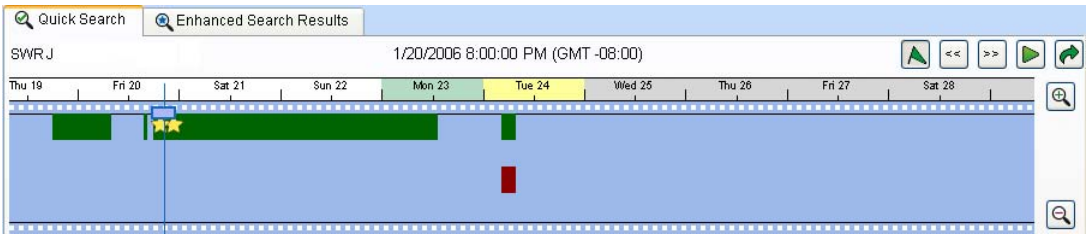

Figure 6. Quick Search

Green The materials used in the manufacture of this document and its components are compliant to the requirements of Directive 2002/95/EC.

REVISION HISTORY

Manual #	Date	Comments
C2669M	4/07	Original version.

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INSTALLATION

DVR5100 Series
Digital Video Recorder

C1695M (8/06)

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Regulatory Notices

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RADIO AND TELEVISION INTERFERENCE

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You may also find helpful the following booklet, prepared by the FCC: “How to Identify and Resolve Radio-TV Interference Problems.” This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402.

Changes and Modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission’s rules.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Before You Begin

About the DVR5100

The DVR5100 Series digital video recorder (DVR) is stand-alone or Endura-enabled, high-performance 4, 8, or 16 channel DVR. The DVR5100 combines superior forensic functions, easy-to-use interfaces, and video recording performance previously reserved for extremely high-end systems. Digital video recorders designed for forensic applications must record video at high resolutions to capture exceptional detail and quality required for investigative work. The DVR5100 captures video at up to 704 x 480 pixels (NTSC) or 704 x 576 pixels (PAL) at 30 ips (NTSC) or 25 ips (PAL), providing the investigator with essential details.

The DVR5100's remarkable performance is enhanced by the use of the EnduraStor™ storage optimization technology. EnduraStor allows video recorded at higher frame rates to be reduced to 2 ips after a predetermined period of time, saving valuable hard disk drive space. EnduraStor, combined with powerful motion detection capabilities and programmable recording schedules, allows the user to customize the performance of the DVR5100 and optimize the required storage capacity.

A user-supplied USB keyboard can be connected to a DVR5100 USB port to configure the DVR5100 settings quickly and easily. Convenient front panel controls with integrated joystick, jog, and shuttle, combined with an intuitive and simple graphical user interface (GUI), make using the DVR easy and effortless. The front panel controls allow operation of Pelco PTZ cameras through Coaxitron®, D, or P protocol. An innovative single-button export feature simplifies the exporting of video.

Flexible view options allow users to optimize the DVR for their particular application requirements. Video can be displayed on NTSC/PAL composite, NTSC/PAL S-video, or VGA monitors. The main monitor can display one, four, nine, or sixteen images. Live and playback video can be combined on the same screen. In addition, a programmable spot monitor provides a sequencing display on a composite monitor.

The DVR5100 uses Internet Protocol-based networking for remote accessibility and control of the DVR. All connections are made over a secure and encrypted VPN session. For local area networks, the DVR5100's 1 gigabit network port supports its impressive performance.

With a maximum recording speed of 30 images (NTSC) or 25 images (PAL) per camera per second at 4CIF resolution, the DVR5100 shatters previous performance marks and establishes the best value in the industry for forensic digital video recorders. The combination of enterprise class recording capabilities, ample internal storage, remote accessibility, and the reliability and assurance found in Pelco products makes this the ideal DVR for unmanaged video surveillance applications typical of the retail, banking, education, and medical industries.

The DVR5100 can operate as a stand-alone or networked device. If the DVR5100 is going to be included in an existing network, always include your network administrator when planning and installing the DVR5100.

PARTS LIST

Qty	Description
1	Pelco DVR5100 Series DVR
1	Rack-mounting kit:
	2 Chassis mounting brackets with handles and thumb screws
	8 Screws, 10-32 x 0.25-inch, Phillips, pan head (4 for each bracket)
	2 Adjustable support rail sets (each set includes 1 front-mounting rail and 1 rear-mounting rail)
	6 Screws, 8-32 x 0.375-inch, Phillips, truss head
	4 Screws, 10-32 x 0.5-inch, Phillips, flat head (2 for each front-mounting rail)
	4 Screws, 10-32 x 0.75-inch, Phillips, pan head (2 for each rear-mounting rail)
	10 Cage nuts (for use with square-hole racks)
2	Terminal blocks (each) for alarms and relays
3	Power cables (1 USA standard, 1 European standard, and 1 UK standard)
2	Product identification labels (attached to unit)
1	DVR5100 Quick Start Installation Guide
1	DVR5100 Installation manual
1	DVR5100 Operation manual (on resource CD)
1	DVR5100 Control Pad Quick Reference Guide
1	DVR5100 Recovery Instructions
1	Important Safety Instructions
1	Resource CD
1	Recovery DVD

PACKAGE CONTENTS

The following diagrams show the contents of the two boxes. When installing the DVR5100 Operation manual, refer to these diagrams.

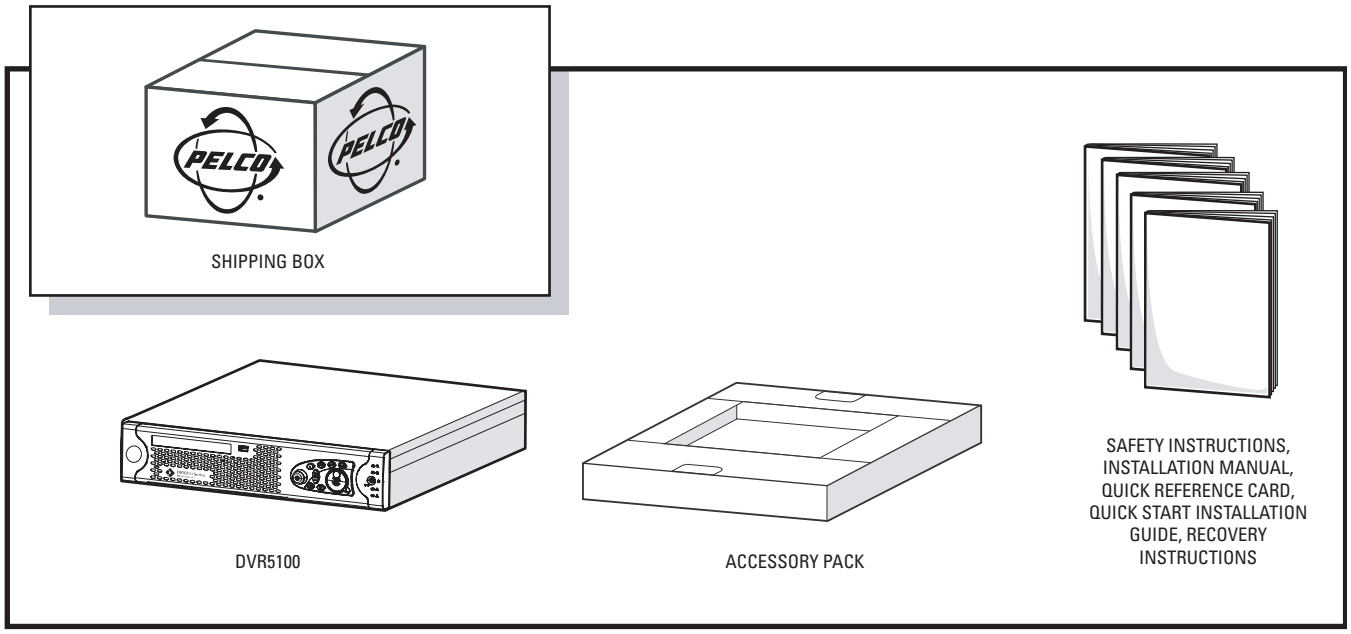

SHIPPING BOX
DVR5100
ACCESSORY PACK
SAFETY INSTRUCTIONS, INSTALLATION MANUAL, QUICK REFERENCE CARD, QUICK START INSTALLATION GUIDE, RECOVERY INSTRUCTIONS

Figure 1. Major Package Components

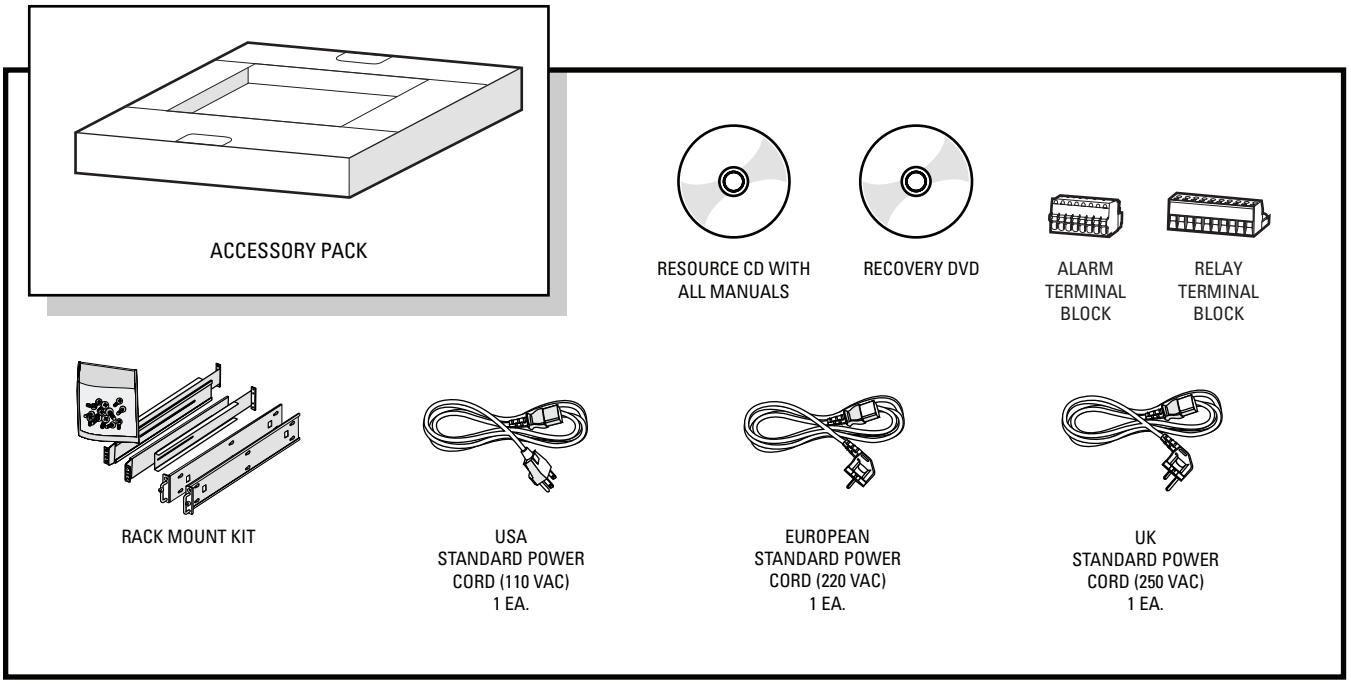

ACCESSORY PACK
RESOURCE CD WITH ALL MANUALS
RECOVERY DVD
ALARM TERMINAL BLOCK
RELAY TERMINAL BLOCK
RACK MOUNT KIT
USA STANDARD POWER CORD (110 VAC) 1 EA.
EUROPEAN STANDARD POWER CORD (220 VAC) 1 EA.
UK STANDARD POWER CORD (250 VAC) 1 EA.

Figure 2. Accessories Box

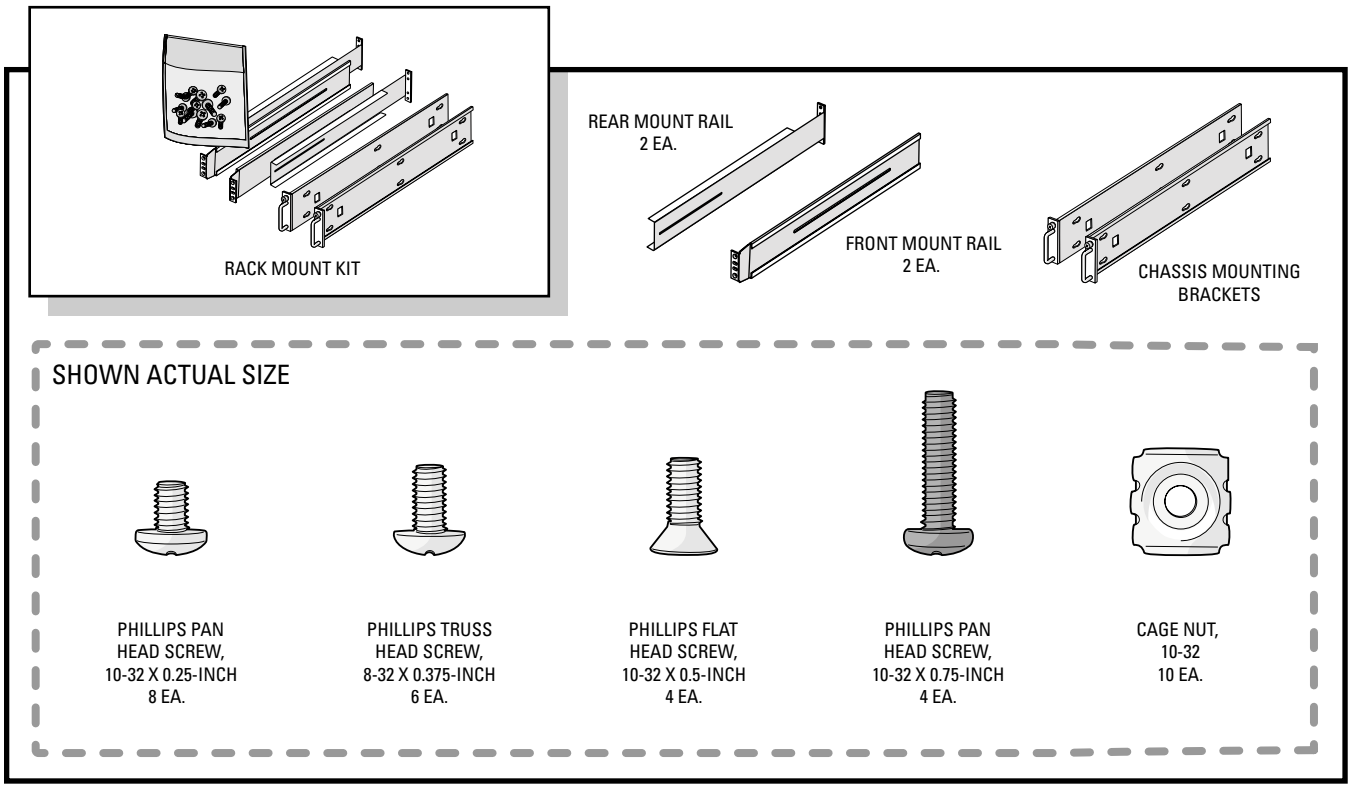


Figure 3. Rack Mount Kit

PRODUCT SERIAL NUMBER LABEL PLACEMENT

Product serial number labels help Pelco's Product Support identify your system and its factory configuration in the event that your DVR5100 Operation manual or its components require service.

Extra labels citing your product's serial number are attached to your DVR5100. One label is attached to the bottom of the unit. A second label is attached to the front panel of the unit.

Because rack mounting and other installation options may obscure the factory-applied labels, a third label is provided for you to attach to your product documentation or another product location that will not be obscured by installation. To use this label:

1. Locate the small label attached to the outside of the front panel with a yellow sticker that reads "Extra serial number label: remove prior to installation."
2. Remove the yellow sticker.
3. Peel away the backing of the small white label and attach it to this Installation manual, other product documentation, or an unobscured product location.

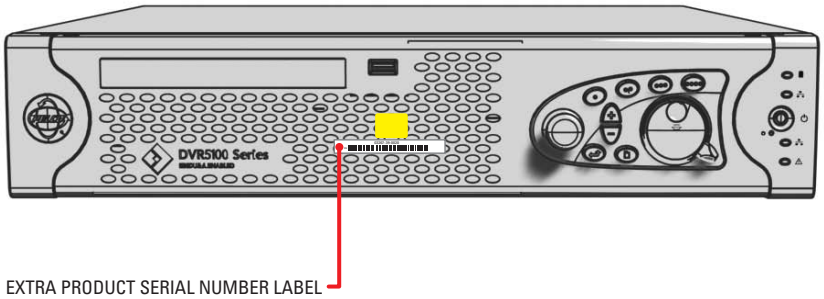


Figure 4. Extra Product Serial Number Label

Hardware Installation

Equipment Placement and Rack Mounting

The DVR5100 can be placed on a flat surface, such as a desktop, or mounted in an equipment rack.

DESKTOP MOUNTING

⚠ **WARNING:** Do not place the DVR5100 unit on its side; in this position, the unit is likely to fall over and may cause equipment damage or personal injury.

To mount the DVR5100 on a desktop:

1. To prevent surface damage, be sure that the rubber feet are securely installed on the four corners of the bottom of the unit.
2. Remove the two chassis brackets (if attached) from the sides of the unit, using a Phillips screwdriver to remove the eight 10-32 x 0.25-inch Phillips pan head screws (four per bracket). Save the brackets and screws for possible future use.
3. Position the unit to allow for cable and power cord clearance at the rear of the unit. Be sure that the air flow around the unit is not obstructed.

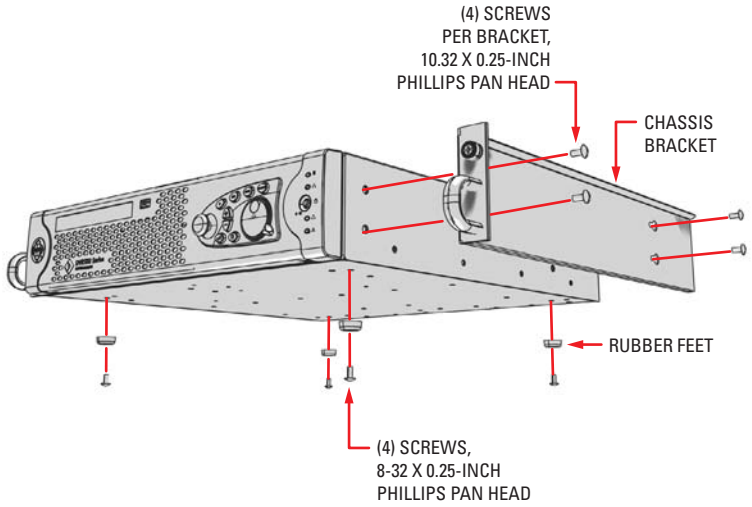


Figure 5. Chassis Brackets and Rubber Feet

RACK MOUNTING

The DVR5100 mounts into an industry-standard 19-inch (48 cm) equipment rack. The DVR5100 occupies two rack units (3.5 inches or 8.9 cm) of vertical rack space. The hardware necessary to mount the DVR5100 into a rack is supplied with the unit.

The rack must meet the following requirements:

- Rack standard: 19-inch EIA-310-D compliant (rear column required).
- Rack column depth: 20 to 30 inches (50.8 to 76.2 cm).
- Column mounting hole provisions: 10-32 UNF-2B threaded holes or square window holes on front and rear columns.
- Door systems (optional): Front doors must have at least 2 inches (5.1 cm) between the DVR5100 front bezel and the inside of the door. Rear doors may be used only on rack columns that are more than 26 inches (66.0 cm) deep.

⚠ **WARNING:** Slots and openings in the cabinet provide ventilation to prevent the unit from overheating. Do not block these openings. Never place the unit near or over a radiator or heat register. When placing the unit in a built-in installation, such as a rack, be sure to provide proper ventilation. Allow at least one rack unit (1.75 inches or 4.44 cm) of spacing between units

NOTE: Figure 6 identifies each piece of hardware for this procedure.

To install the DVR5100 in a rack:

1. If chassis mounting brackets are not attached: Attach one mounting bracket to each side of the DVR5100. Use four 10-32 x 0.25-inch Phillips pan head screws for each bracket. Attach the brackets so that the tapered ends are positioned toward the rear of the DVR5100. Refer to Figure 5.
2. Remove the four rubber feet from the underside of the unit if they are attached. Save the rubber feet and screws for possible future use.
3. Attach one front-mount rail to one rear-mount rail. Make sure the rails are mounted back to back, as shown in Figure 6. Use three 8-32 x 0.375-inch Phillips truss head screws in any of the available holes. Leave the screws loose until step 8.

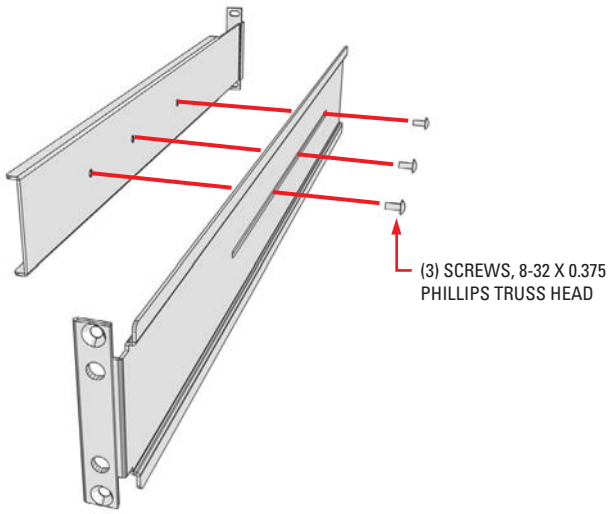


Figure 6. Assembling a Support Rail

4. Repeat step 3 for the other rail set.
5. If installing unit into a square-hole rack: Insert 10 cage nuts into the square-hole rack as shown in Figure 7.

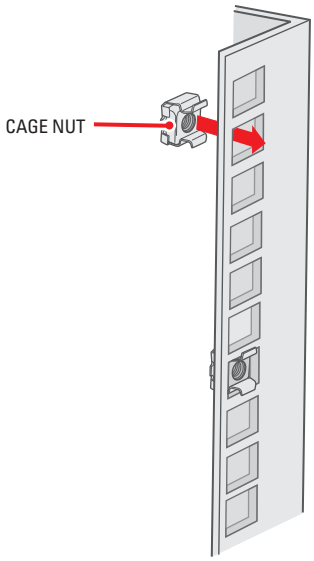


Figure 7. Inserting Cage Nuts

6. Attach one support rail assembly to the equipment rack in the desired location (refer to Figure 8).

NOTE: The support rail assemblies are identical and may be used on either the right or left side of the rack.

a. Position the ear of the front-mount rail against the front of the equipment rack. Align the top and bottom holes in the ear of the rail with the threaded holes (or cage nuts) in the rack.

b. Using two 10-32 x 0.5-inch Phillips flat head screws, attach the ear of the rail to the front of the rack. Insert the screws from the outside of the rack, pointing rearward.

c. Adjust the rails to the correct depth of the equipment rack by sliding the rear-mount rail to the back of the equipment rack.

d. Position the ear of the rear-mount rail against the rear exterior of the equipment rack. Align the top and bottom holes in the ear of the rail section with the threaded holes (or cage nuts) in the equipment rack.

e. Using two 10-32 x 0.75-inch Phillips pan head screws, attach the ear of the rail to the rear of the rack. Insert the screws from the outside of the rack, pointing forward.

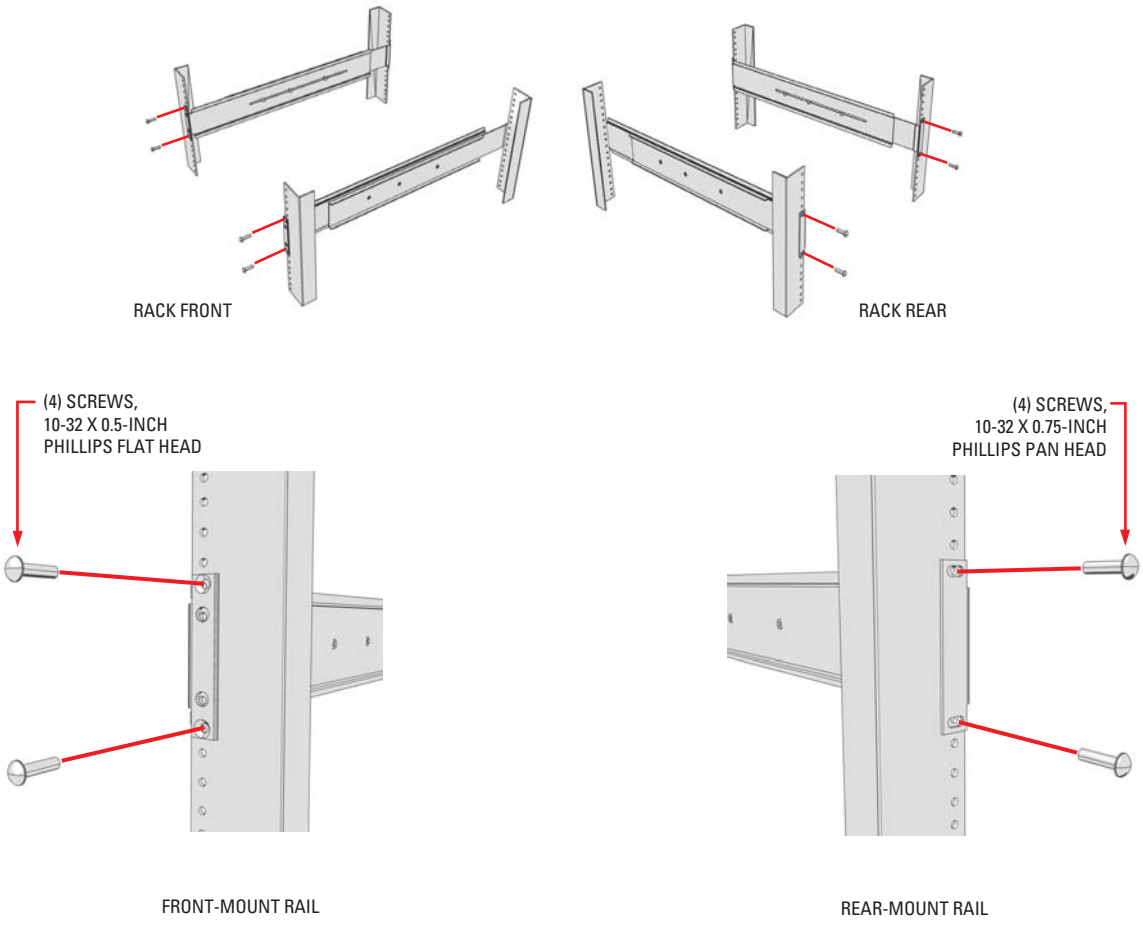


Figure 8. Attaching Support Rails

7. Repeat step 6 for the second support rail assembly.
8. Tighten the 8-32 x 0.375-inch Phillips truss head screws that were attached to the front- and rear-mount rails in steps 3 and 4.
9. Place the unit onto the mount rails by sliding the chassis brackets onto the rails. This step may require two people to lift and slide the unit into place. The unit should slide in and out of the rack easily. Refer to Figure 9.

⚠ **WARNING:** When sliding out the DVR5100, be careful not to let the unit fall out of the rack.

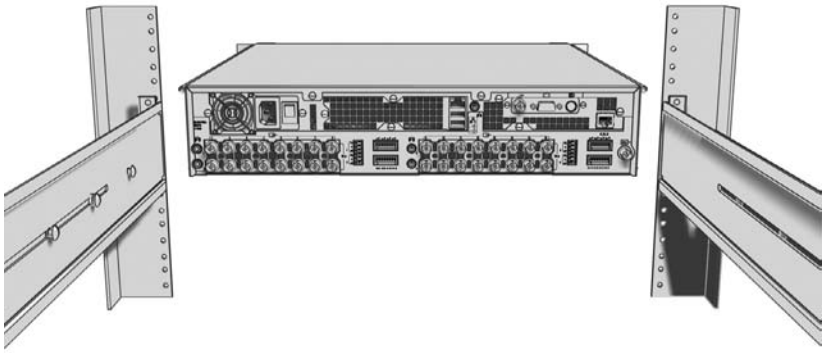


Figure 9. Mounting the DVR5100 into the Rack

10. After the unit is in place, tighten the two thumbscrews to secure the unit to the rack.

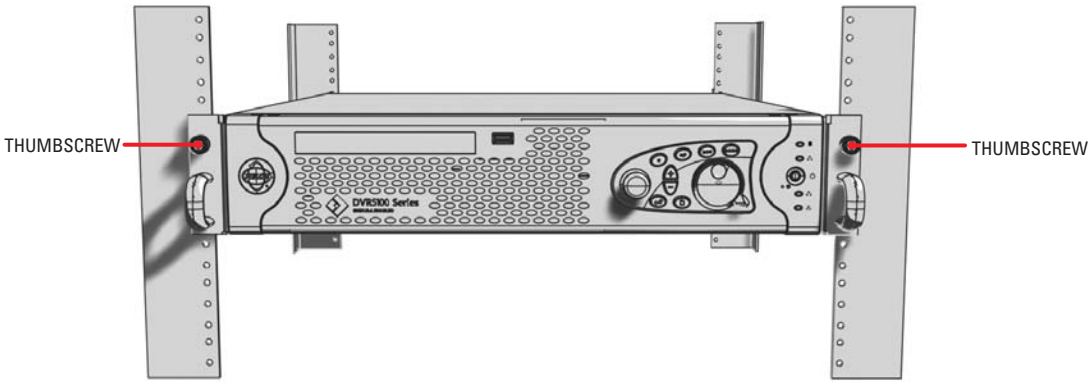


Figure 10. Tightening the Thumbscrews

Connections

Familiarize yourself with the DVR5100 back panel before connecting any equipment to the unit. The following figure shows the DVR5100 back panel for the 16-channel DVR. The DVR5100 is available as 4, 8, or 16-channel DVR. In this case, the back panel of the 4 and 8 channel units is a little different.

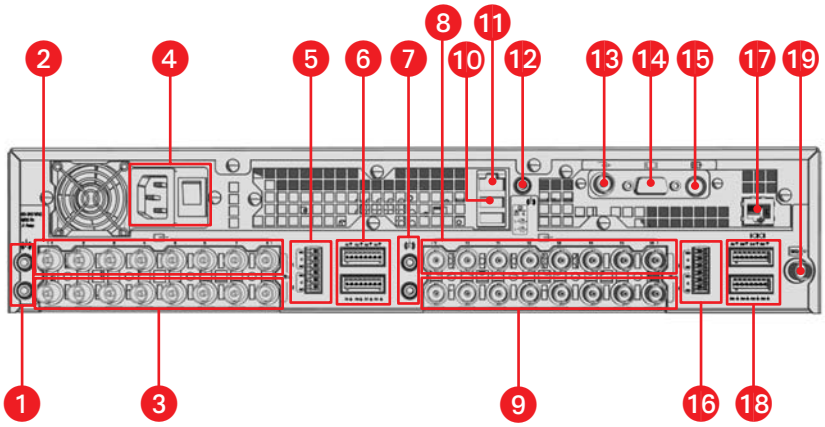


Figure 11. DVR5100 Rear Panel

The following table describes the DVR5100 back panel.

Table A. Parts of the DVR5100 Back Panel

Item	Part	Description
1	Audio Inputs 1 and 2	Audio inputs are assigned as follows: • Two audio inputs (1 and 2 for video input 1 and 2, respectively) are provided for a 4 and 8-channel DVR. • Four audio inputs (1 and 2 for video input 1 and 2 and audio input 3 and 4 for video input 9 and 10, respectively) are provided for a 16-channel DVR.
2	Video Inputs 1–8	Camera inputs 1–8 for a 16 channel DVR. The 4 channel DVR provides camera inputs 1–4 and an 8 channel DVR provides camera inputs 1–8. The rear panel layout might be different for the 4 and 8 channel DVR.
3	Looping Video Outputs 1–8	One looping video output is provided for each camera input.
4	AC Power Connector	Power.
5	Relays 1–2	One relay is provided for every 4 channels: • One relay output is provided for a 4-channel DVR. • Two relay outputs (1, 2 for channels 1 and 2, respectively) are provided for an 8-channel DVR. • Four relay outputs (1, 2 for channels 1 and 2, respectively and 3, 4 for channel 9 and 10, respectively) are provided for a16-channel DVR. Relays are numbered from top to bottom.
6	Alarms 1–4 and 5–8	One programmable alarm input is provided for each video input. Alarm inputs for video input 1–8 are organized as follows: • Alarm input 1–4 is for video 1–4 • Alarm input 5–8 for video input 5–8 Alarms are numberd from the top left through the bottom right. The rear panel layout might be different for the 4 and 8 channel DVR.

Table A. Parts of the DVR5100 Back Panel (Continued)

Item	Part	Description
❼	Audio Inputs 3 and 4	Audio inputs 3 and 4 are for channel 9 and 10. For information about audio inputs for a 4 or 8 channel DVR5100, refer to item 3 in this table.
❽	Video Inputs 9–16	Camera inputs 9–16 for a 16 channel DVR. The rear panel layout might be different for the 4 and 8 channel DVR.
❾	Looping Video Outputs 9–16	One looping video output is provided for each camera input.
❿	USB 2.0	Two USB 2.0 ports are provided for connecting an USB device, such as an optional KBD5000, USB PC keyboard, or USB storage media.
⓫	RJ-45	Gigabit Ethernet RJ-45 port (1000BaseT).
⓬	3.5 mm Audio Jack	Provides mono audio output.
⓭	Analog Video Output	Output connector, for sending video to an analog device such as an NTSC or PAL monitor.
⓮	DB15 VGA	VGA connector for connecting a primary VGA monitor.
⓯	S-Video	S-Video connector for connecting a primary monitor.
⓰	Relays 3–4	One relay is provided for every 4 channels. Relay output 3 and 4 for channel 9 and 10 are provided for a16-channel DVR. Relays are numbered from top to bottom.
⓱	RJ-45 Port	Supports an RS-422 port for connecting a PTZ device.
⓲	Alarms 9–12 and 13–16	One programmable alarm input is provided for each video input. Alarm inputs for video input 9–16 are organized as follows: • Alarm input 9–12 for video 9–12 • Alarm input 13–16 for video input 13–16 Alarms are numberd from the top left through the bottom right. The rear panel layout might be different for the 4 and 8 channel DVR.
⓳	SEQ Monitor	Use the SEQ output connector to connect a spot monitor to display video sequentially from each video input.

CONNECTING VIDEO DISPLAY DEVICES TO THE DVR5100

This section provides information about physically connecting video display devices to the DVR5100. When you install the DVR5100 for the first time, one of the initial steps you perform is to select and set up the primary monitor. By default, the DVR5100 is configured to use a VGA monitor. In this case, if your application requires a VGA monitor, you do not have to select and set up a primary monitor.

For information about starting and setting up the DVR5100 for the first time, refer to *About Setting Up the DVR5100 for the First Time* on page 44.

1. Connect video output. The DVR5100 offers the choice of VGA output (default), NTSC/PAL composite video output (BNC), or S-video output.

   NOTE: Composite and S-video connections may be used at the same time to view the same video. However, the VGA connection may not be used in combination with either of the other two video output options.

   VGA: To send video to a VGA computer monitor, connect a VGA cable from the SVGA output on the video output card to the monitor's VGA input connector. The system can support 1024 x 768 video output. On monitors with higher screen resolutions, the program will automatically resample the video and resize the picture to fit the screen.

   Composite video: To send video to an analog monitor, such as an NTSC or PAL monitor, connect a coaxial cable from the BNC connector on the rear panel to the analog device.

   S-video: To send S-video to a monitor, connect an S-video cable from the S-video connector on the video output card to the monitor's S-video input connector.

2. Connect audio input and output. There are two or four line-level inputs for receiving audio and one line-level connector for audio output.

   Audio in: Connect a preamplified audio device to the audio input monaural jack.

   Audio out: Connect a speaker or other audio output device to the audio output jack. The line output has an adjustable level of up to 3 V peak-to-peak with a minimum load of 8 ohms.

3. You may use the USB 2.0 ports (front or rear of unit) to connect an optional USB PC keyboard and mouse (facilitates easier configuration, but not required) or an optional KBD5000 keyboard. USB cables connecting an external keyboard to the DVR5100 can be no more than 16.4 feet (5 meters) long.

4. Connect power. Plug the power cord (either the USA standard, UK standard, or European standard cable provided) into the rear of the unit, and then plug the cord into the wall. The DVR5100 Series uses a 100-240 VAC power supply.

5. If networking the DVR5100, connect a 1000BaseT network Cat5e (or better) cable and connector to the RJ-45 network connector on the rear panel.

CONNECTING VIDEO INPUT AND OUTPUT DEVICES

The DVR5100 offers both analog video input and looping video output for up to 16 video devices.

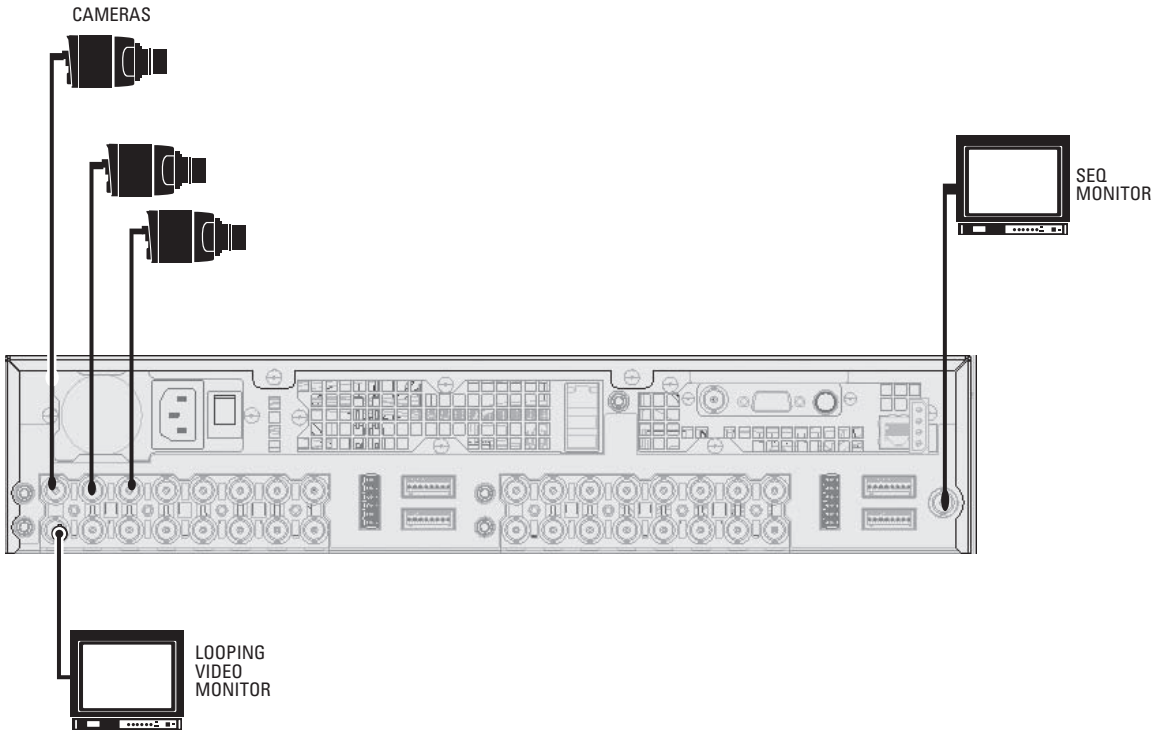


Figure 12. Video Inputs and Outputs

Before installing the DVR5100, make sure the distance from the unit to each video device is less than the maximum distance for the coaxial cable. Refer to Table B for maximum video coaxial cable distances.

Table B. Video Cable Distances

Cable Type*	Maximum Distance
RG59/U	750 ft (229 m)
RG6/U	1,000 ft (305 m)
RG11/U	1,500 ft (457 m)

*Cable requirements:
75-ohm impedance
All-copper center conductor; steel-center conductor cable may result in poor performance
All-copper braided shield with 95% braid coverage

CONNECTING VIDEO INPUT

The DVR5100 automatically detects the video standard (PAL or NTSC) whenever you connect a video input. It accepts both color and black-and-white analog video. Use the DVR5100 Remote Client to select the termination setting (HiZ or 75Ω) for each video input. Termination is set to 75Ω by default.

NOTES:

- Enabling line lock on cameras may cause video distortion. There may be noise in the camera's power source. If video from one or more cameras is distorted, Pelco recommends disabling line lock on the camera as your first troubleshooting step.
- If a video distribution amplifier, such as a CM9760-MDA, is installed between the video source and the DVR5100, do not set the output video level above 1 Vp-p.

To connect each video input:

1. Connect a coaxial cable to the camera or other analog video source.
2. Connect the coaxial cable to the video in connector on the rear panel.

NOTE: You may have to use a BNC installation tool to connect coaxial cables to the rear panel.

After connecting the coaxial cables to the DVR5100, you can use the SEQ video output to verify each video source (refer to *Connecting Sequence Monitor*).

CAMERA CONTROL: COAXITRON

Coaxitron is Pelco's up-the-coax technology. It requires only a coaxial cable and no other wiring or equipment. When the DVR5100 receives a camera control command, it transmits that command up the coaxial cable to the PTZ device. Coaxitron is a single-direction protocol; the PTZ device cannot return any data to the unit.

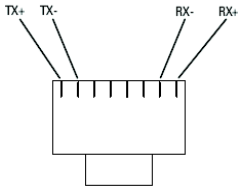
To enable Coaxitron operation, connect the PTZ device to the video input on the DVR5100. Since Coaxitron is disabled by default for each camera, you must enable it on the specific video inputs.

CAMERA CONTROL USING PELCO D OR PELCO P PROTOCOLS

The DVR5100 supports Pelco D (four-wire) and Pelco P (two-wire) protocols. These protocols use a serial interface to transmit commands to the PTZ device over separate control wires. When the DVR5100 receives a camera control command, it transmits that command to the PTZ device. The system continues receiving video over the coaxial cable through the DVR5100. You will need a straight cable to connect the DVR5100 to each camera. Refer to Table C for the RJ-45 pin assignments for the DVR5100.

Table C. Pin Assignments for the DVR5100

DVR5100	
Pin	**Lead**
1	TX+
2	TX-
3-6	Reserved
7	RX-
8	RX+



Pins can be numbered in either direction starting from the left or the right.

To connect PTZ devices to the DVR5100:

1. Connect either end of the straight cable to the connector labeled I/O RS422 on the DVR5100 rear panel.
2. Connect the other end of the cable to the proper pins in the connector on the camera. Refer to the installation manual for the camera for additional information.
3. Follow the instructions for configuring a camera to enable each PTZ device on its specific video input.

CONNECTING LOOPING VIDEO

The DVR5100 supports looping video. It passes the video input to a monitor or other analog video device.

To use looping video:

1. Connect a coaxial cable to the video out connector on the rear panel.

   NOTE: You may have to use a BNC installation tool to connect coaxial cables to the rear panel.

2. Connect the other end of the coaxial cable to the analog device.
3. After installation, change the termination for the video channel Hi-Z using the DVR5100 Remote Client.
4. If looping video to additional devices, set the termination to Hi-Z on each device to disable termination. Set the termination to 75Ω on the last device to enable termination.

NOTE: If you do not terminate the video signal at the last device in the series, ghosting or other imperfections may appear in the video signal.

CONNECTING AUDIO

The DVR5100 supports up to four audio inputs. One audio input is provided for every four channels. The audio inputs are assigned as follows:

- One audio input is provided for a 4-channel DVR.
- Two audio inputs (1 and 2 for video input 1 and 2, respectively) are provided for an 8-channel DVR.
- Four audio inputs (1 and 2 for video input 1 and 2, and audio input 3 and 4 for video input 9 and 10, respectively) are provided for a 16-channel DVR.

The unit encodes audio and video signals simultaneously, which lets you control audio at the monitored location. The unit supports line level inputs. Microphones must be amplified for best results.

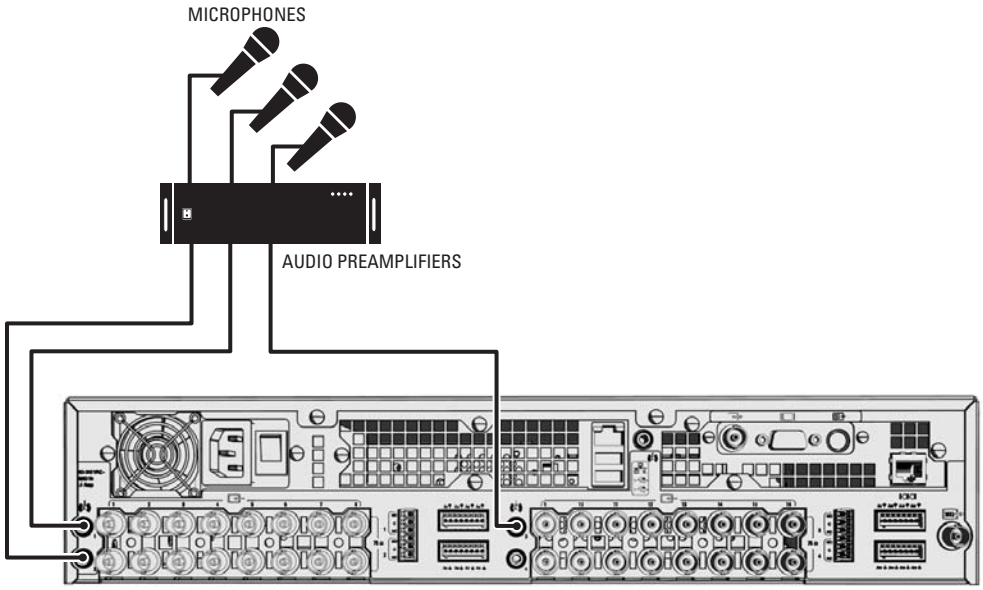


Figure 13. DVR5100 Audio Connections

To set up audio:

1. Make sure your audio input device matches the 1 Vp-p line input level. If the device and line input levels do not match, audio distortion problems may occur.
2. Make sure the audio connector is wired as follows:

Connector Tip	Signal high
Connector Sleeve	Common

3. Connect a line input device or preamplified microphone to the audio connector for the video channel on the rear panel.

CONNECTING RELAY DEVICES

The DVR5100 supports up to four relay devices. Use them to trigger external devices. The unit supports both momentary and continuous relay operation, either normally open or normally closed.

You can operate the relay interactively, during an active connection, or automatically to coincide with certain events. Typical applications include activating a door, gate, or lock, or switching on lights or other electrical devices.

⚠ **WARNING:** Do not exceed the maximum ratings: 30 VDC, 2 A; 125 VAC, 0.5 A.

When wiring the connector, consider the following:

- Use 16 to 26 AWG (0.14 to 1.5 mm^2) wire that is rated for 250 V or higher. The insulation must be thick enough to protect against electro-static discharge (ESD).
- Strip the relay control wire to 0.3 inches (7.6 mm).
- Insert the wire far enough into the connector so that the metal is not exposed.
- When using a relay with a higher load, install an external, more powerful relay.

The unit includes two six-pin relay control terminal blocks. These blocks have tension clamps. Use a small screwdriver to open the clamp for a particular lead. Figure 14 shows how to wire the relay control terminal block and connect it to the DVR5100.

NOTE: The terminal block is keyed. It attaches only one way to the DVR5100.

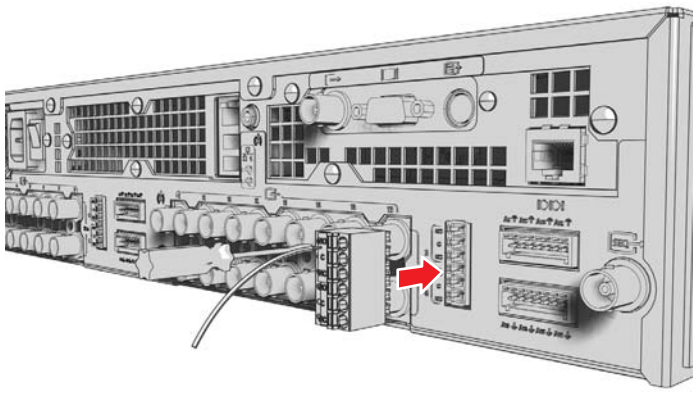


Figure 14. Relay Control Terminal Block

Table D identifies the pin assignments for the relay control terminal blocks. On the terminal block, pin 1 is the top lead (refer to Figure 14).

Table D. Relay Control Terminal Blocks Pin Assignments

Relay	Pin	Label	Lead
1, 3	1	NO	Normally Open
	2	C	Common
	3	NC	Normally Closed
2, 4	4	NO	Normally Open
	5	C	Common
	6	NC	Normally Closed

Figure 15 shows how to wire the relay with its power source to the DVR5100 (refer to Table D for the specific connector pin assignments).

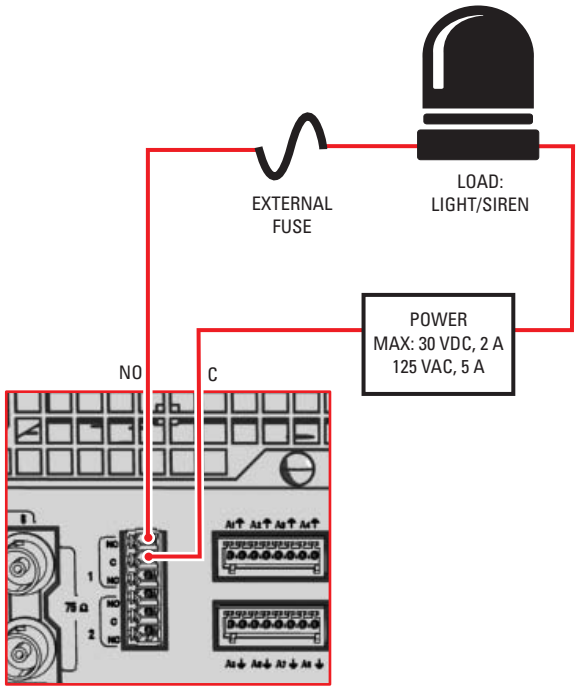


Figure 15. Connecting a Relay Device

CONNECTING ALARMS

The DVR5100 offers 16 alarm inputs for external signaling devices, such as door contacts or motion detectors. Each alarm input can be either normally open or normally closed, either supervised or unsupervised.

Once configured, an alarm input can invoke many different activities, including triggering a relay device, sending an alert to a security office, changing the video recording settings, and storing pre-alarm video to the DVR5100. You can connect switches or contacts directly to the unit without a separate power supply.

SUPERVISED ALARMS

When an alarm is configured as a supervised alarm, the DVR5100 maintains a constant electrical current through the alarm circuit (5.0 VDC, 10 kΩ), including a 10 kΩ resistor. If the resistance changes, due to an electrical short or a bypass, the voltage fluctuates from its normal state. Therefore, the unit triggers an alarm.

Figure 16 illustrates the alarm and no alarm conditions of a supervised alarm input. Whether the alarm is normally closed or normally open, neither a cut nor a bypass can defeat these alarms.

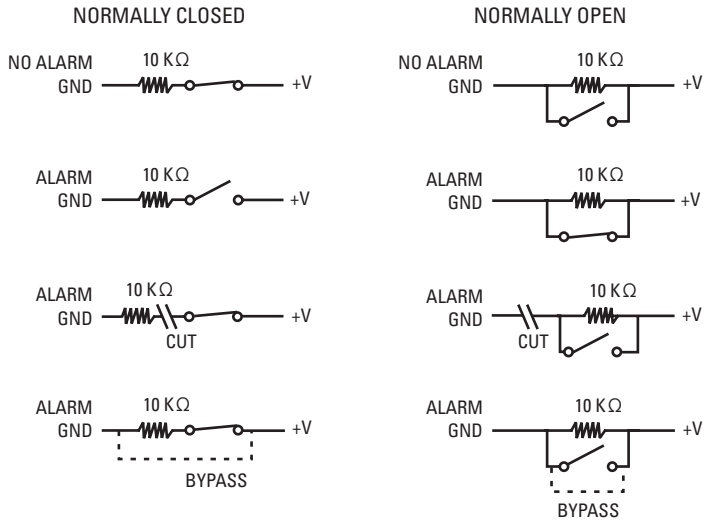


Figure 16. Supervised Alarm Conditions

Figure 17 illustrates the wiring configuration for supervised alarm inputs.

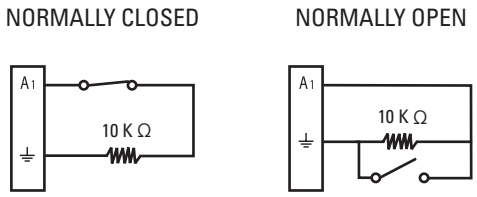


Figure 17. Supervised Alarm Input Wiring

UNSUPERVISED ALARMS

When an alarm is configured as an unsupervised alarm, the DVR5100 triggers an alarm only when the normal alarm state (open or closed) changes.

Figure 18 illustrates the alarm and no alarm conditions of an unsupervised alarm input. A normally closed alarm input can be defeated with a bypass. A normally open input can be defeated with a cut.

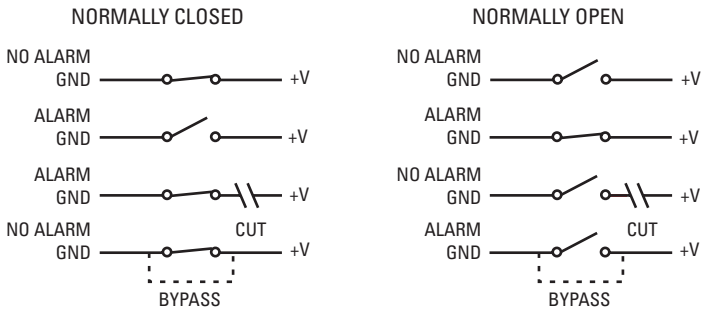


Figure 18. Unsupervised Alarm Conditions

Figure 19 illustrates the wiring configuration for unsupervised alarm inputs.

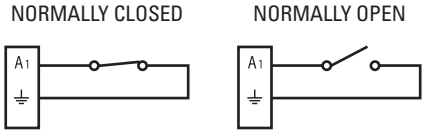


Figure 19. Unsupervised Alarm Input Wiring

ALARM CONNECTIONS

The unit includes four eight-pin alarm terminal blocks. These blocks have tension clamps. Use a small screwdriver to open the clamp for a particular lead. Figure 20 shows how to wire the alarm terminal block and connect it to the DVR5100.

When wiring the connector, consider the following:

- Use 20 to 28 AWG (0.08 to 0.5 mm^2) wire that is rated for 250 V or higher. The insulation must be thick enough to protect against electrostatic discharge (ESD).
- Strip the alarm wire to 0.31 inches (8 mm).
- Insert the wire far enough into the connector so that the metal is not exposed.

The terminal block is keyed. It attaches only one way to the DVR5100.

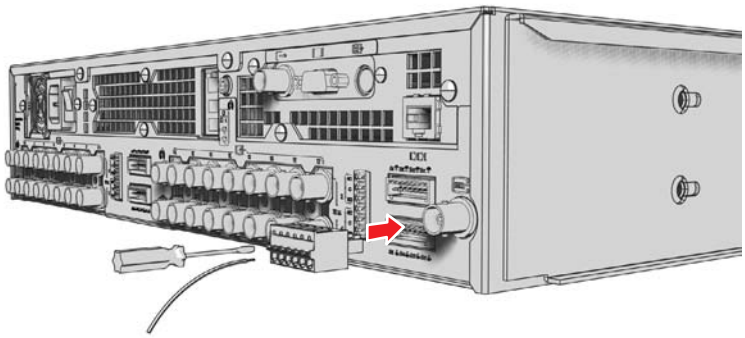


Figure 20. Alarm Terminal Block

Table E identifies the pin assignments for the terminal block. On the terminal block, pin 1 is on the left (refer to Figure 20).

Table E. Terminal Block Pin Assignments

Pin	Label	Lead
1	A1	Alarm 1
2	⏚	Ground
3	A2	Alarm 2
4	⏚	Ground
5	A3	Alarm 3
6	⏚	Ground
7	A4	Alarm 4
8	⏚	Ground

These pins, labels, and leads also correspond to alarms 5-8, 9-12, and 13-16 on the other three alarm terminal blocks.

To prevent false alarms on unused alarm inputs, connect or configure unused alarm inputs using one of the following:

- Configure the alarm input as unsupervised and normally open on the DVR5100 Remote Client. You do not have to make any connections. This is the default.
- Configure the alarm input as unsupervised and normally closed on the DVR5100 Remote Client. Then connect the alarm input directly to its ground.
- Configure the alarm input as supervised and either normally open or normally closed. Then connect the alarm input directly to its ground with a 10 kΩ resistor.

Figure 21 shows how to wire an alarm device to the Alarm 1 (A1) input (refer to Table E for the specific connector pin assignments).

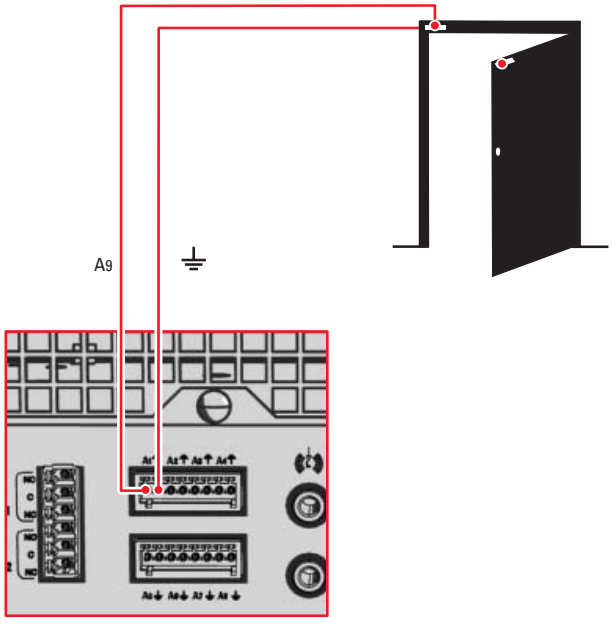


Figure 21. Connecting Alarms

CONNECTING POWER

The power supply incorporated into the DVR5100 is tested and certified for high reliability applications. The unit has an autoranging power supply that adapts automatically to voltages between 100 VAC and 240 VAC (50/60 Hz).

For greater reliability, you can also install an uninterruptible power supply (UPS) (not supplied). UPS devices maintain a limited amount of backup battery power in case the main power fails. The UPS should have a minimum rating of 60 VA for 115 VAC or 75 VA for 230 VAC.

NOTE: The DVR5100 does not support intelligent UPS operation.

To connect power:

1. Connect one of the supplied US, European, or UK standard power cords to rear of the unit.
2. Connect the cord to the appropriate power source.

Refer to *Starting and Stopping the DVR5100* on page 49 for instructions on starting the unit.

CONNECTING A SPOT MONITOR

Use the SEQ output connector during installation to display video sequentially from each video input. The unit displays each channel for two seconds. It displays a black screen for channels without video. Use this feature to verify camera installation.

To display video from each connected video source:

1. Connect a video monitor to the SEQ output connector.
2. Turn on the DVR5100, the monitor, and each video source.
3. Verify the video from each source and troubleshoot as necessary.
4. If you do not see video from all video sources on the spot monitor, refer to *Camera Setup* on page 75 for information on setting up a spot monitor.

CONNECTING A DVR5100 IN A NETWORK CONFIGURATION

The DVR5100 supports remote viewing and administration in client-server configurations. The DVR5100 is compatible with the TCP/IP protocol and Fast Ethernet (1000BaseT) network connection. Consult your network administrator before installing the DVR5100 to avoid possible network conflicts.

For TCP/IP access, connect the DVR5100 to a 10/100/1000 Mbps, switched Ethernet network. Use standard Cat5 or better UTP cable with RJ-45 connectors.

To configure the DVR5100 hardware for network access:

1. Connect one end of the UTP cable to the network port on the back panel of the DVR5100 as shown in Figure 22.
2. Connect the other end of the UTP cable to an available port on a standard Fast Ethernet switch.

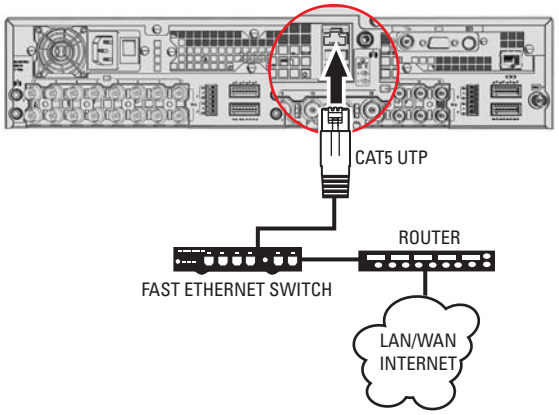


Figure 22. LAN/WAN Cable Connection

CONNECTING OPTIONAL USB KEYBOARD AND MOUSE

The DVR5100 provides three USB ports: one on the front panel and two on the back panel. Any of the USB ports can be used to connect a USB PC keyboard and mouse to the DVR5100. A local USB PC keyboard and mouse are not required to configure the DVR5100, but they can facilitate configuration of the DVR.

To connect a USB PC keyboard to the DVR5100:

1. Connect the USB mouse to the PC keyboard USB port.
2. Connect the USB PC keyboard into one of the USB ports on the DVR5100.

CONNECTING OPTIONAL KBD5000 KEYBOARD

A KBD5000 keyboard can be used with a DVR5100. By connecting a KBD5000 keyboard, you can operate the DVR5100 from the keyboard controls instead of using the control pad on the front panel of the unit.

To connect a KBD5000 keyboard to the DVR5100:

1. Assemble the KBD5000 keyboard according to the instructions in its accompanying installation manual.
2. Connect the KBD5000 keyboard into one of the USB ports on the DVR5100.

Understanding DVR5100 Controls and Menus

Overview of Front Panel Controls and Menus

This section provides an overview of DVR5100 front panel controls and menus. The DVR5100 is a menu-driven DVR. You can operate the DVR5100 using any of the following:

- **DVR5100 Control Pad:** The DVR5100 provides front panel controls that allow you to local access to the menu system. You can configure and operate the DVR5100 using front panel controls. Refer to *DVR5100 Control Pad* on page 32 for a description of each key on the Control Pad.
- **Optional KBD5000 keyboard:** The DVR5100 supports the KBD5000 keyboard. Refer to *Navigating Through Menus with the KBD5000 Keyboard* on page 34for a description of each key on the KBD5000 keyboard with the DVR5100.
- **Optional PC USB keyboard and mouse:** The DVR5100 provides three USB ports, which can be used to connect an optional PC keyboard and mouse. Refer to *Navigating Through Menus with a PC Keyboard and Mouse* on page 36 for a description of using a PC keyboard and mouse with the DVR5100.
- **DVR5100 Remote Client:** The DVR5100 allows you to use the DVR5100 Remote Client application to access the DVR5100 over the network. The DVR5100 Remote Client application allows you access to advanced DVR5100 features and functionality. Refer to the DVR5100 Remote Client Operation Manual for more information.

FRONT PANEL INDICATORS

The following figure shows the DVR5100 front panel.

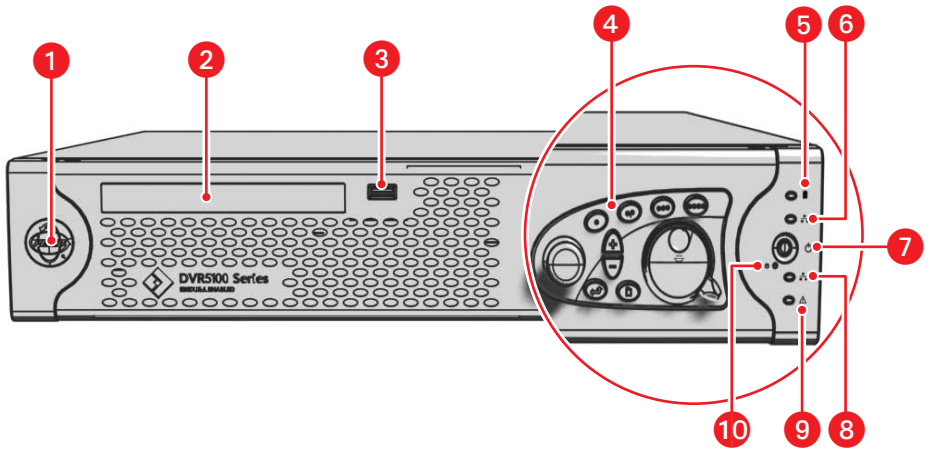


Figure 23. DVR5100 Front Panel Indicators

The front panel of the DVR5100 contains the following controls and indicators:

Table F. Features of the DVR5100 Front Panel

1	**Pelco badge (power indicator)** **:** The Pelco badge, on the left side of the unit, glows blue when the unit has power. Behind the front bezel, the power indicator LED is white.
2	**DVD:** DVD drive that allows you to import/export video to and from the DVR and load install DVR software updates.
3	**USB port:** Version 2.0 USB port.
4	**Control pad:** Controls the basic operations of the unit. For information about the Control Pad, refer to *DVR5100 Control Pad* on page 32.
5	**Hard disk drive indicator** : The hard disk drive (HDD) status indicator flashes yellow when there is HDD activity.
6	**Network activity indicator** : The activity indicator flashes green when the unit is sending or receiving network data.

Table F. Features of the DVR5100 Front Panel (Continued)

❼	**Power key** : Use the power key to turn the unit on and off.
❽	**Network status indicator** : The network status LED indicates the network connection and speed. It may display one of the following conditions: • **Off:** The unit is not connected to the network. • **Solid Green:** The unit is connected to the network using the 1000BaseT standard. • **Solid Yellow:** The unit is connected to the network using the 100BaseT standard. • **Solid Red:** The unit is connected to the network using the 10BaseT standard.
❾	**Unit status indicator** **:** The unit status is indicated by one of the following three colors: • **Green:** The unit is functioning normally. • **Yellow:** The unit is in configuration mode. • **Red:** The unit is in an error condition.
❿	The Configuration/Reset key on the front panel is reserved for future use.

DVR5100 CONTROL PAD

The DVR5100 Control Pad allow you to configure and operate the DVR.

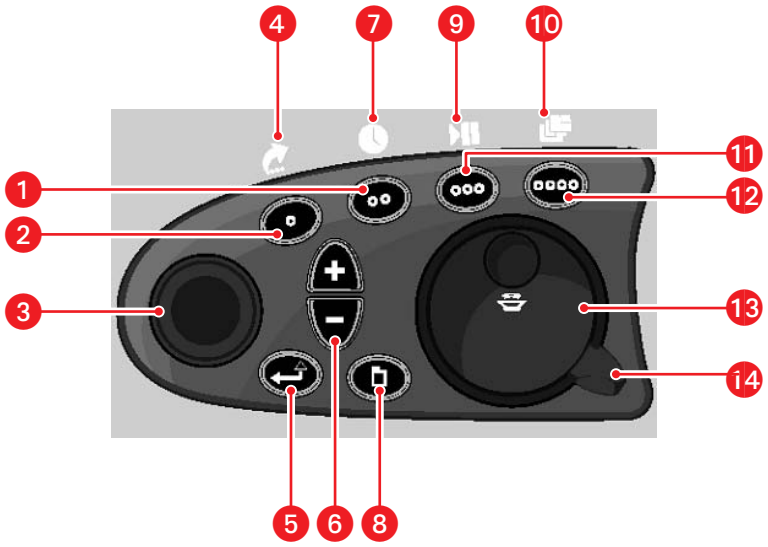


Figure 24. DVR5100 Control Pad

The Control Pad contains the following keys and functions.

Table G. DVR5100 Control Pad Functions

❶	**Yellow function key:** • When on-screen menus are displayed, pressing the yellow key selects the yellow menu item. • When on-screen menus are not displayed, pressing this key switches the DVR mode to live view.
❷	**Blue function key:** • At the Login dialog box, pressing this key displays the Keypad. • When on-screen menus are displayed, pressing this key selects the blue menu item. • When on-screen menus are not displayed, pressing this key displays the Quick Export dialog box.
❸	**Joystick:** The joystick navigates to a video pane, menu item, or field. In PTZ mode, controls pan and tilt.

Table G. DVR5100 Control Pad Functions (Continued)

❹	**Quick export label**: Indicates the function of this key when on-screen menus are not displayed.
❺	**Enter/Shift:** The Enter/Shift key selects menu items when menus are visible. Press and release the key to enter or exit PTZ mode, which is indicated by a blue border around the video pane. Press and hold the key to adjust volume.
❻	**Plus (+)/Minus** (–) **keys:** Plus / Minus keys perform multiple actions and work in combination with the Enter/Shift key. • **Viewing live video:** The Plus key displays the next camera in the sequence in the currently selected video pane. The Minus key selects the previous camera. • **PTZ mode:** The Plus key zooms in. The Minus key zooms out. • **In a menu dialog box:** The Plus key increases the value of a number field. The Minus key decreases the value of a number field. • **With Enter/Shift key:** The Plus key advances to the next camera page (for example, in 2x2 or quad view mode, it shows the next four cameras). The Minus key returns to the previous camera page (for example, in 2x2 or quad view mode, it shows the previous four cameras).
❼	**Go to live label:** Indicates function of this key when on-screen menus are not displayed.
❽	**Menu:** The Menu key shows or hides on-screen menus.
❾	**Play/pause label:** Indicates function of this key when on-screen menus are not displayed.
❿	**Change layout label:** Indicates function of this key when on-screen menus are not displayed.
⓫	**Green function key:** • If the Keypad is displayed, pressing the green key closes the Keypad and selects the Password field. Pressing the green key a second time logs on the user to the DVR5100 if the password was correct. • When on-screen menus are displayed, pressing the green key selects the green menu item. • When on-screen menus are not displayed, pressing this key toggles the DVR mode between play and pause.
⓬	**Red function key:** • If the Keypad is displayed, pressing the red key closes the Keypad, deletes the contents in the Password field, and selects the User Name field. • When on-screen menus are displayed, pressing the red key selects the red menu item. • When on-screen menus are not displayed, pressing this key repeatedly changes the video view from the single, 2x2, 3x3, and 4x4 display layouts.
⓭	**Jog control:** The jog control performs the following functions: • **Frame-by-frame action:** Turn the jog counterclockwise to rewind. Turn the jog clockwise to advance. • **With Enter/Shift key:** Turn the jog counterclockwise to lower volume. Turn the jog clockwise to increase volume.
⓮	**Jog shuttle:** Turn the jog shuttle counterclockwise for fast rewind, clockwise for fast forward. To increase speed, turn it several times.

NAVIGATING THROUGH MENUS WITH THE KBD5000 KEYBOARD

The KBD5000 keyboard controls serve different purposes depending on which part of the menus you are using. The keys light up to indicate which controls are available based on your currently active operation. If a key is not lit, that control is not currently available.

ACTIVATING ON-SCREEN MENUS

When you want to activate on-screen menus, you can use the keys on the KBD5000. The menu operations are described in the following table:

Table H. KBD5000 Menu Operations

Joystick Module	
Key	**Menu Operations**
	Joystick: Moves left and right through the main menu, between tabs on the configuration screens, moves between items in a dialog box, expands lists like the Devices list on the Devices tab of the Configuration screen.
	Joystick trigger: Selects menu items. Performs the same actions as the Enter/Shift key on the DVR5100 Control Pad.
	Help key: Displays or hides context-sensitive help for the KBD5000 keyboard.
Keypad Module	
Key	**Menu Operations**
	Alphanumeric keypad: The keys on the alphanumeric keypad are not used. You must enter text from the on-screen keyboard.
	Camera selection key: Displays the Select Cameras dialog box with list of cameras.
	Monitor selection key: This key is not used.
Jog/Shuttle Module	
Key	**Menu Operations**
	Shuttle (outer ring): Backs up to a higher-level menu. Expands a level in a hierarchy.
	Jog (inner dial): Moves up and down through a list.
	Color-coded function keys: Selects one of the on-screen menu options. Keys are context sensitive.
	Menu selection key: Shows or hides the previously displayed DVR5100 menu.

ACTIVATING LIVE AND PLAYBACK CONTROLS

After you select a video pane, you can work with the live or recorded video, operate pan and tilt commands, or initiate other camera-specific actions with the KBD5000 keys. The menu operations are described in the following table:

Table I. KBD5000 Live and Playback Operations

Joystick Module	
Key	**Live and Playback Operations**
	Joystick: Navigates up and down, left and right across the monitor and across menus. Controls PTZ. Adjusts focus and iris: turn the handle right to focus closer or open the iris; turn it left to focus farther or close the iris.
	Joystick trigger: Places the currently selected video pane into PTZ mode. Pressing it again removes the PTZ mode.
	Help key: Displays or hides context-sensitive help about the KBD5000 keyboard.
	Aux key: Activates the wiper command.
	Iris key: Displays the dialog for adjusting iris on the currently selected camera.
	Focus key: Displays the dialog for adjusting focus on the currently selected camera.
Keypad Module	
Key	**Live and Playback Operations**
	Alphanumeric keypad: The keys on the keypad are not used by the DVR5100. You must enter text from the on-screen keyboard.
	Camera selection key: Displays the Select Camera dialog box with a list of cameras.
	Monitor selection key: This key is not used.
	Multiple view keys: Switches the monitor display to view 1, 4, 9, or 16 images.

Table I. KBD5000 Live and Playback Operations (Continued)

Jog/Shuttle Module	
Key	**Live and Playback Operations**
	Menu selection key: Shows or hides the main menu.
	Shuttle (outer ring): Performs fast rewind when moved to the left. Performs fast forward when moved to the right. When a sub-menu is displayed, turning the shuttle to the left returns you to the main menu.
	Jog (inner dial): Performs slow rewind when moved to the left. Performs slow forward when moved to the right.
	Color-coded function keys: Selects one of the options available on a menu.
	Play/pause video key: Plays or pauses recorded video.
	Record video key: Records video for export. While recording, pressing this key marks the video with a yellow bar.
	Live/playback mode key: Stops playback and returns to live video for the currently selected camera.

NAVIGATING THROUGH MENUS WITH A PC KEYBOARD AND MOUSE

You can attach a USB PC keyboard and mouse to the DVR5100 in addition to using the control pad to navigate through menus. The keyboard and mouse operations are described in the following table:

Table J. USB PC Keyboard and Mouse Operations

USB PC Keyboard	
Key	**Menu Operations**
Enter	Selects a menu item. Performs the same actions as the Enter/Shift key on the DVR5100 Control Pad.
F1 - F4	Perform the same actions as the four color-coded function keys on the DVR5100 Control Pad.
F5 - F8	Changes the screen layout from the single, 2x2, 3x3, and 4x4 display layouts respectively.
F9	Displays the Camera Selection dialog box.
Tab or Shift + Tab	Moves to the next field or tab on a menu, or selects the next command on a dialog box or screen. Press Shift+Tab to move to the previous field or tab on a menu.
Esc (Escape)	Closes a menu.
Shift + (Plus)	In live view mode, displays the next camera in the currently selected video pane. In PTZ mode, zooms in on the scene. In the menus, expands the device tree or increases a number in a text field. While viewing recorded video, advances the video one frame at a time.
- (Minus)	In live view mode, displays the previous camera in the currently selected video pane. In PTZ mode, zooms out of the scene. In the menus, closes the device tree or decreases a number in a text field. While viewing recorded video, reverses the video one frame at a time.
Down or Up Arrow	In PTZ mode, tilts the currently selected camera down or up. In the menus, selects the next or previous entry in a list on a menu or dialog box.
Ctrl + Down Arrow/ Ctrl + Up Arrow	In the menus, increases or decreases the number in a field, or selects the next or previous entry in a list.

Table J. USB PC Keyboard and Mouse Operations (Continued)

Right or Left Arrow	In PTZ mode, pans the currently selected camera right or left. In the menus, moves to the next or previous field on a menu or dialog box.
Ctrl + Right Arrow/ Ctrl + Left Arrow	Increases or decreases the audio volume.
Page Up or Page Down	Scrolls forward or backward through the timeline on the Quick Search dialog box, or selects the next or previous entry in a list on a menu or dialog box.
Backspace	Returns to the previous menu; performs the same action as turning the shuttle counterclockwise.
Alphanumeric keypad	Use any alphanumeric key on the keyboard to enter information in a text field such as a password, IP address, comment or other field. Do not enter characters that are not valid for the currently selected field. Refer to the specific instructions for the field for guidelines on valid entries. See the descriptions in this table for additional functions for specific characters.
<	Plays recorded video backwards.
>	Plays recorded video forwards.
L	Switches the currently selected video pane to live view mode.
M	Displays the main menu.
P	In live view mode, plays or pauses the video in the currently selected video pane.
R	In live view mode, starts recording video in the currently selected video pane.
S	Displays the Quick Search dialog box for the currently selected video pane.
X	Opens the Quick Export dialog box.
Z	Switch to PTZ mode.
USB Mouse	
Left-Click	Selects a menu icon, text field, or check box; executes a command key; and displays the next tab on a configuration screen. Point and click on an up or down arrow next to a text field to increase or decrease the number or to select the next or previous entry in a list.
Right-Click	Displays a shortcut menu if one is available. For example, right-click the device list on the Devices tab to display a shortcut menu from which you can copy or paste device settings, delete a selected device, hide offline devices from the list, restore factory defaults, and expand or collapse the device tree.

Figure 25. Shortcut Menu Accessible From a Mouse

Overview of Navigation and Controls

The DVR5100 Series DVR provides semitransparent on-screen menus that allow you to adjust settings while continuing to monitor live video. The DVR5100 Control Pad offers a quick and convenient set of local controls that allow you to configure and operate the DVR.

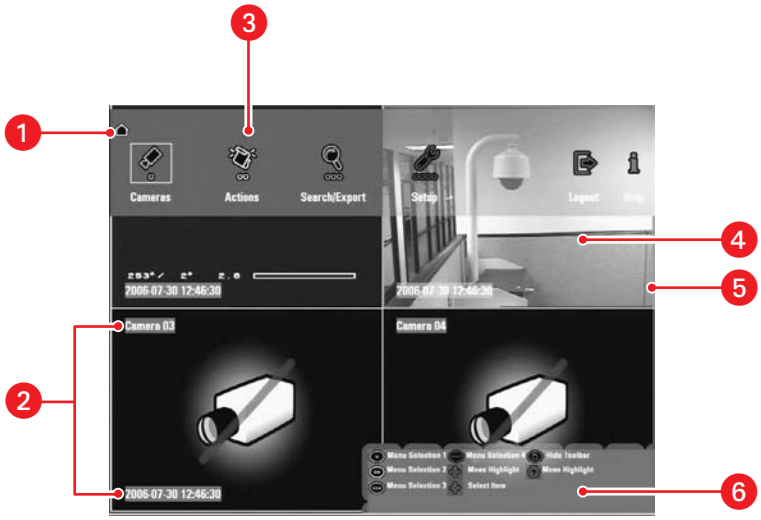


Figure 26. DVR5100 Main Window

The DVR5100 application window contains the following elements:

1	**Icon path:** Orients you to your location in the menu hierarchy.
2	**Camera information:** Displays the camera name and the date and time where that camera is located.
3	**On-screen menus:** Provide access to all operational functions through a hierarchical set of four-option menus. Large, color-coded icons make it easy to view and make your selections.
4	**Video pane:** Displays video, either live from a camera or recorded from the hard disk of the unit. Displays up to 16 video streams at one time, in any combination of live and recorded video.
5	**Video pane border:** Indicates status. Bright green indicates the currently active video pane. Red indicates that manual recording is in progress. Yellow indicates that recorded video is being played back. Blue indicates that PTZ controls are active.
6	**Context-sensitive help:** Describes how to use the currently active function from the KBD5000 or how to use the front panel controls on the DVR5100. Note that a different set of online help information appears depending on how you display the help. To view the online help about the KBD5000, press the Help button on the keyboard. To display online help about the front panel controls, select the Help icon from the main menu of the DVR5100. Figure 26 illustrates the online help for the KBD5000.

DISPLAYING AND HIDING THE SYSTEM MENUS

Press the Menu key to display and hide the on-screen menus.

The first time you display the menus, the DVR5100 displays the main menu. If you navigate to a lower-level menu and then close the menu display, the DVR5100 retains that information and returns you to the same menu the next time you press the Menu key. To hide an on-screen menu, press the Menu key again.

Figure 27. DVR5100 Main Menu

NAVIGATING TO AND SELECTING A MENU ITEM

There are three ways to navigate within a menu and select an item:

- Use the joystick to move between the on-screen icons.
- Press a function key that is identical in color to a menu item.
- Turn the jog (inner dial) of the jog/shuttle to move across a menu or up and down a list.

JOYSTICK

To navigate to and select a menu item:

1. Move the joystick left or right to a menu item. The yellow cursor denotes the highlighted menu item.
2. Press the Enter/Shift key to select the highlighted menu item. To return to a previous menu, move the joystick to the on-screen Back icon , and then press the Enter/Shift key.

FUNCTION KEYS ON THE CONTROL PAD

The DVR5100 Control Pad contains four color-lit function keys. The color of each key corresponds to the color of its icons displayed on the monitors linked to the DVR5100. This color-matching design lets you navigate the on-screen menus without looking down to read keyboard text labels. The colors always appear in the same order from left to right: blue, yellow, green, and red.

Figure 28. Control Pad Color-Coded Function Keys

To navigate through the different levels in menus or to select an item:

1. Press the color-coded function key that corresponds to the on-screen menu item. For example, to select the blue icon on the screen, press the blue function key on the front panel of the DVR5100.
2. To return to a previous menu, turn the jog shuttle to the left. After you make a selection, the DVR5100 presents a menu or displays a dialog.

USING THE JOG/SHUTTLE TO NAVIGATE THROUGH MENUS

There are two ways to return to a previous, or higher level, menu:

- Turn the jog (inner dial) to the right or left until you select the Back icon on the screen, and then press the Enter/Shift key.
- Turn the shuttle (outer ring) counterclockwise.

The icon path at the top of the menu bar tells you which menu icons you selected to arrive at your current location. This lets you know how deep within the menu structure you are and how many levels there are to reach the main menu. Most functions are no more than one or two levels deep. For example, in the figure below, you would need to return one level to reach the main menu from the Search/Export menu.

Figure 29. Sample Icon Path

USING THE CONTROL PAD TO ENTER CHARACTERS

The DVR5100 can be configured and operated from the Control Pad, KBD5000 keyboard, USB PC keyboard, and Remote Client. This section describes how to use the DVR5100 Control Pad to enter characters in text fields.

To enter characters using the Control Pad:

1. Select a field that supports character entry, for example a name field or IP address field.
2. Press the blue function key to display the on-screen keyboard.

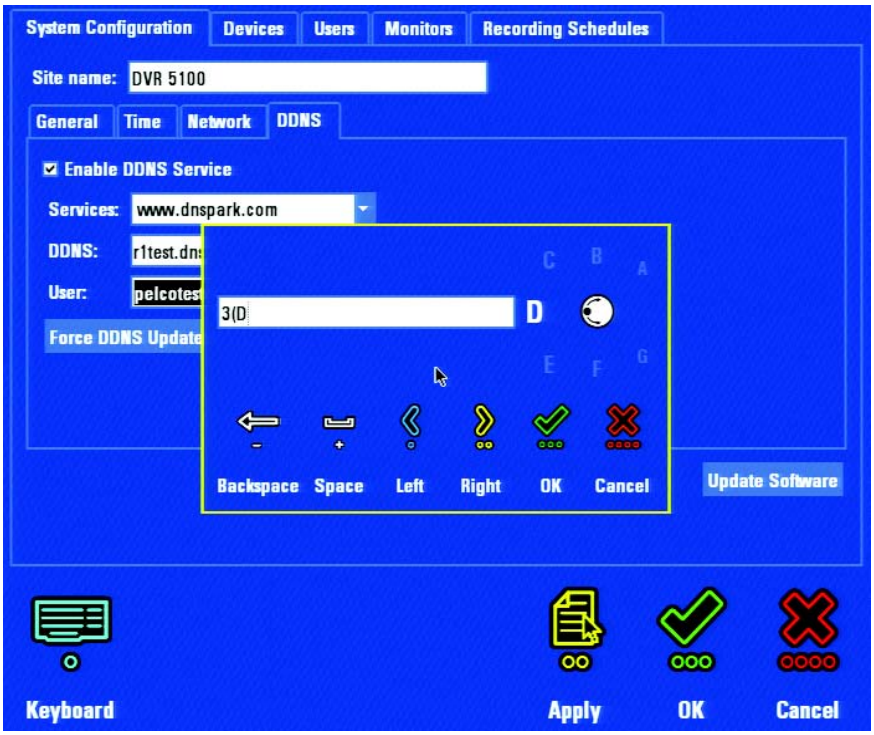


Figure 30. On-Screen Keyboard

3. Enter characters by pressing the following keys:
   - Turn the jog to the right or left to select a character of the name or IP address that you are entering.
   - Use the joystick, blue function key, or yellow function key to move between characters within the text field.
   - Use the jog/shuttle to move slowly or quickly through the list of characters.
   - Press the Minus key to delete the previous character.
   - Press the Plus key to insert a space.
   - Press the Shift/Enter key to accept the currently selected command and return to navigating between fields on the Setup tab.
   - Press the green function key to accept a completed entry.
   - Press the red function key to cancel an entry and return to the previous dialog.

NOTE: You can use masks to select the set of characters appropriate for some text fields (e.g. 1–255 for IP addresses, A–Z, numbers, and special characters for names).

SHOWING AND HIDING ONLINE HELP INFORMATION

For help with the system or to view system status, select the on-screen Help icon , and then press the blue function key to display online help, or press the yellow function key to display system status.

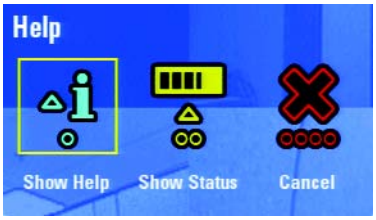


Figure 31. Help Menu

If you choose to display online help, the following screen appears. Pressing any key hides this screen.

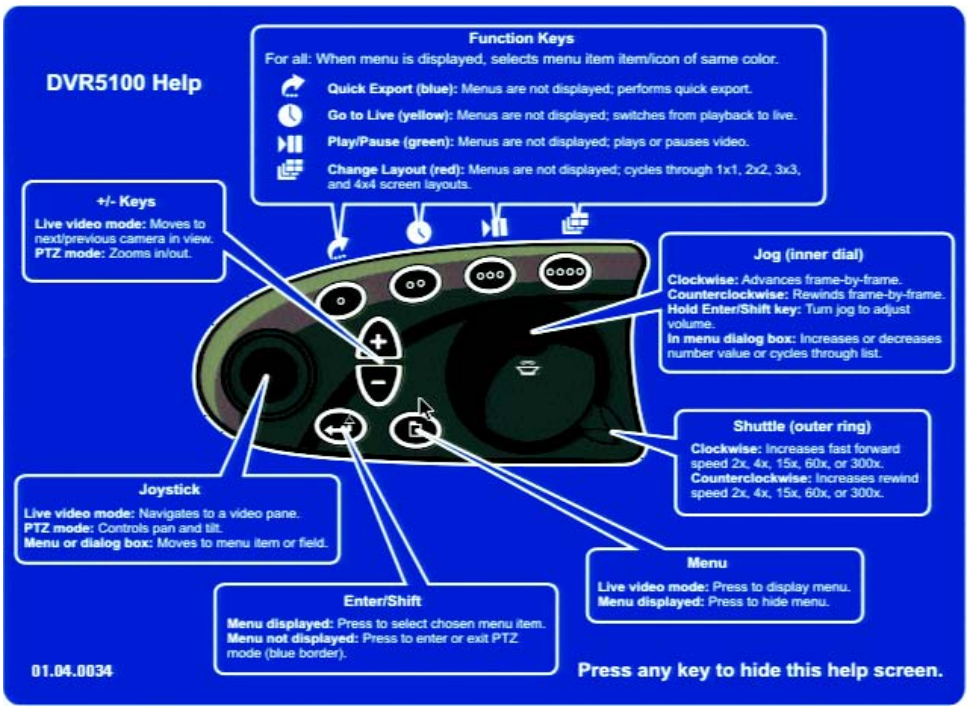

DVR5100 Help
Function Keys
For all: When menu is displayed, selects menu item item/icon of same color.
Quick Export (blue): Menus are not displayed; performs quick export.
Go to Live (yellow): Menus are not displayed; switches from playback to live.
Play/Pause (green): Menus are not displayed; plays or pauses video.
Change Layout (red): Menus are not displayed; cycles through 1x1, 2x2, 3x3, and 4x4 screen layouts.
+/- Keys
Live video mode: Moves to next/previous camera in view.
PTZ mode: Zooms in/out.
Jog (inner dial)
Clockwise: Advances frame-by-frame.
Counterclockwise: Rewinds frame-by-frame.
Hold Enter/Shift key: Turn jog to adjust volume.
In menu dialog box: Increases or decreases number value or cycles through list.
Shuttle (outer ring)
Clockwise: Increases fast forward speed 2x, 4x, 15x, 60x, or 300x.
Counterclockwise: Increases rewind speed 2x, 4x, 15x, 60x, or 300x.
Joystick
Live video mode: Navigates to a video pane.
PTZ mode: Controls pan and tilt.
Menu or dialog box: Moves to menu item or field.
Menu
Live video mode: Press to display menu.
Menu displayed: Press to hide menu.
Enter/Shift
Menu displayed: Press to select chosen menu item.
Menu not displayed: Press to enter or exit PTZ mode (blue border).
01.04.0034
Press any key to hide this help screen.

Figure 32. Online Help for the Control Pad

On-Screen Menus

The DVR5100 Series DVR on-screen menus hierarchy is designed to present only those menus for which you have permission. Depending on your user role, you might see all available menus or only a few of the menus. There are user roles for an administrator, manager, operator, and guest. The descriptions of menus in this section are based on the administrator role, which has access to all menus and functions. If you do not see a menu to which you think you should have access, contact your system administrator to change the permissions for your user ID.

DVR5100 MAIN MENU

The main menu of the DVR5100 provides access to all daily operational functions. It is organized into four menus from which all other functions are available.

Figure 33. DVR5100 Main Menu

CAMERAS MENU

The Cameras menu contains options that are related to selecting cameras to view in video panes. It also contains options for setting up and adjusting cameras with the Focus and Iris commands, and for reviewing camera properties from the Camera Menu.

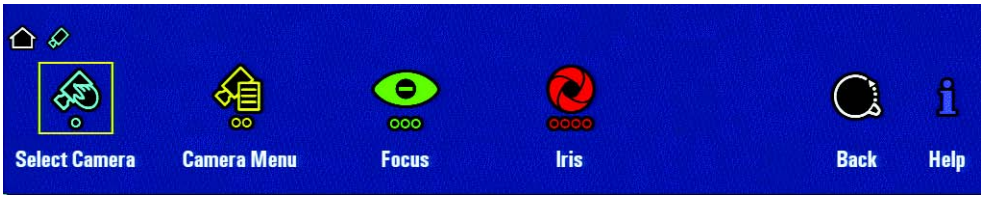


Figure 34. Cameras Menu

ACTIONS MENU

The Actions menu contains options for running scripts and relays on selected devices. To create scripts or relays, log on to a DVR5100 Remote Client application. You can also control PTZ operations or auxiliary operations such running a wiper on compatible cameras.

Figure 35. Actions Menu

SEARCH/EXPORT MENU

The Search/Export menu contains options for locating and reviewing recorded video and for exporting snapshots and recorded video. To export video you must have a CD or DVD available. To export snapshots, you must have a USB storage device attached to the DVR5100 or to the KBD5000.

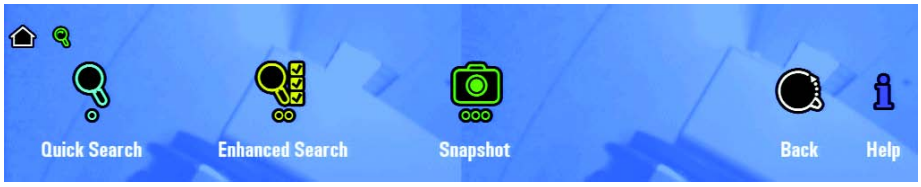


Figure 36. Search Export Menu

SETUP WINDOW

If you have permissions to do so, you can view or modify setup information for the DVR5100. The Setup window contains options for configuring the following settings: System Configuration, Devices, Users, Monitors, and Recording Schedules. To set up roles, scripts, and events you must log on to the DVR5100 Remote Client application.

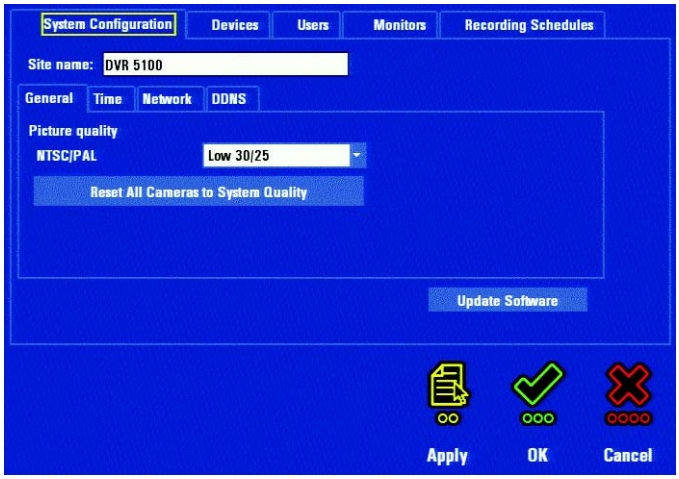


Figure 37. Setup Window

Initial DVR5100 Configuration

About Setting Up the DVR5100 for the First Time

This section provides a basic checklist for setting up your DVR5100 for the first time. You should perform the steps in this checklist immediately after you have installed the DVR5100 according to the steps described in *Hardware Installation* on page 14. The DVR5100 front panel controls are used to configure the DVR. You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more efficiently. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. **Install the DVR5100 hardware:** For information about hardware installation, refer to *Hardware Installation* on page 14.
2. **Turn on the DVR:** You are not required to log on to the DVR5100 to set up the primary monitor. You must log on to the DVR5100 as an administrator user (admin) to access the configuration setup dialog menu. For information about user groups and access roles, refer to Table K, below.
3. **Select a primary monitor:** (Optional) By default, the DVR5100 monitor format is set to VGA. If you plan on using a VGA monitor, no setup steps are required to configure the primary monitor before using the DVR5100. In this case, you can skip the section on setting up a primary monitor and go directly to the section that describes how to set up a spot monitor.
4. **Configure the DVR5100:** After selecting a primary monitor, you configure the DVR5100 as follows:
    a. **Set the system date and time:** You must configure the system date and time.
    b. **Configure the primary monitor:** (Optional) If the system defaults are acceptable, there are no other steps to be performed to configure the primary monitor.
    c. **Configure the spot monitor:** (Optional) If a spot monitor is install, perform the configuration steps.
    d. **Configure the applicable DVR5100 features/options:**

Selecting a Primary Monitor

You can configure the primary monitor for the DVR5100 with or without having a monitor connected to the unit. The default monitor format is VGA. If you plan on using a VGA monitor in the application for displaying video, you do not have to perform the setup procedures in this section. If your system requires an NTSC or PAL monitor, you can perform either of the following procedures to set up the monitor:

- Temporarily connect a VGA monitor to the DVR5100 to display the Monitor Format Selection dialog box when the DVR5100 is first started. You can use the on-screen dialog box to set up the NTSC or PAL monitor. After setting up the monitor, disconnect the VGA monitor and connect the NTSC or PAL monitor, and then restart the DVR5100. Video will be displayed on the configured monitor. Refer to *Using a VGA Monitor to Set Up an NTSC or PAL Primary Monitor* on page 46 for more information.
- Set up the DVR5100 without the use of a monitor while an NTSC or PAL monitor is connected to the DVR5100. In this case, video is not displayed on the NTSC or PAL monitor during the setup phase. Video is displayed on the monitor after the monitor is configured and the DVR5100 is restarted. Refer to *Monitorless Setup of an NTSC or PAL Primary Monitor* on page 48 for more information.

Setting Up the DVR5100 for the First Time

This section describes how to set up the DVR5100 for the first time. Information about configuring the unit is available in *Basic DVR5100 Configuration* on page 53. The first thing you must do after you install your unit is to set up a primary monitor. By default, a VGA monitor is the primary monitor type. You can set your default monitor type to NTSC or PAL. The two methods for setting up an NTSC or PAL monitor as the primary monitor are described below.

USING A VGA MONITOR TO SET UP AN NTSC OR PAL PRIMARY MONITOR

To select a primary monitor:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. Connect a VGA monitor to the DVR5100.
2. Press the power button on the front panel of the unit. The DVR5100 starts and displays the login dialog box.

   WARNING: Pressing and holding the power button for five seconds shuts down the unit. It is recommended that you not shut down the unit by pressing and holding the power button. To avoid data loss or data corruption, always follow the procedures in *Shutting Down the DVR5100* on page 52 to turn off the unit.

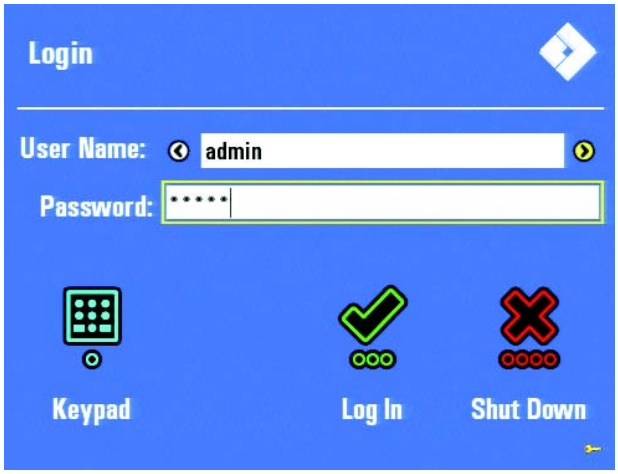


Figure 38. Login Dialog Box

3. On the DVR5100 Control Pad, press Menu . The Select Output Format dialog box (Figure 39) appears, and the four function keys on the Control Pad light up.

   NOTE: If an NTSC or PAL monitor is connected to the DVR5100, the Select Monitor Format dialog box will not display properly (or at all).

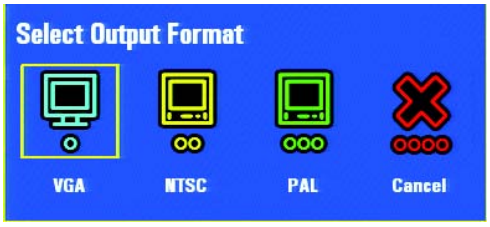


Figure 39. Select Output Format

4. Do one of the following:

   a. To select a monitor format, press a function key on the Control Pad to select the monitor type. Press the blue function key to select VGA, press the yellow function key to select NTSC, or press the green function key to select PAL.

   or

   b. In the Select Output Format dialog box, use the joystick to select a monitor format (VGA [the default], NTSC, or PAL) and press Enter/Shift. The DVR5100 restarts, the video card is reconfigured, and the Login dialog box appears. The User Name list display *admin* as the default user name.

   or

   c. To exit the Select Output Format dialog box without changing the default monitor format or to repeat the setup process, do one of the following:

      - On the Control Pad, press the red function key.
      - In the Select Output Format dialog box, use the joystick to select Cancel and press Enter/Shift.

      The Login dialog box appears.

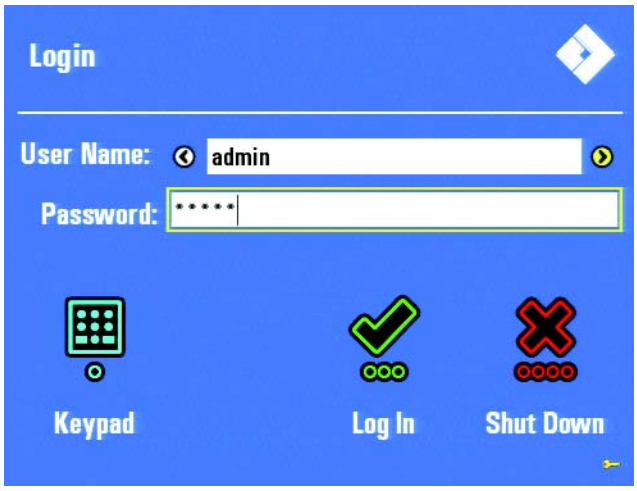


Figure 40. DVR5100 Login Dialog Box

5. Log on to the system, and then verify that the monitor settings are acceptable. For information about logging on to the system, refer to *Starting and Stopping the DVR5100* on page 49. For information about default monitor settings, refer to *Monitors* on page 105.

6. Configure primary monitor settings. For information about configuring your primary monitor, refer to *Basic DVR5100 Configuration* on page 53.

MONITORLESS SETUP OF AN NTSC OR PAL PRIMARY MONITOR

The DVR5100 allows you to configure the primary monitor without having a monitor connected to the unit. In this case, you perform setup instructions by monitoring and using the DVR5100 front panel controls without using the on-screen setup menus.

To set up a primary monitor:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. Connect the monitor to be used with the unit.
2. Press the power button on the front panel of the DVR5100. The DVR5100 starts and the DVR5100 Control Pad menu button lights up.

   WARNING: Pressing and holding the power button for five seconds shuts down the unit. It is recommended that you not shut down the unit by pressing and holding the power button. To avoid data loss or data corruption, always follow the procedures in *Shutting Down the DVR5100* on page 52 to turn off the unit.

3. On the Control Pad, press Menu. The four function keys light up.

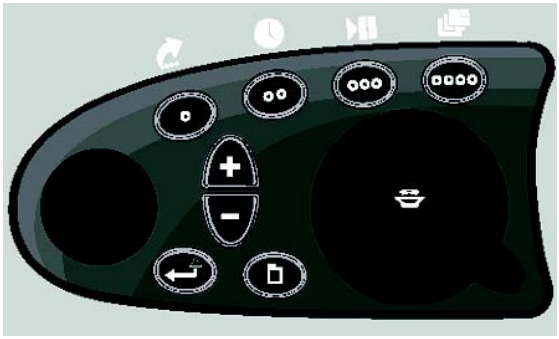


Figure 41. Control Pad for the DVR5100

NOTE: If an NTSC or PAL monitor is connected to the DVR5100, the Select Monitor Format dialog box will not display properly (or at all).

Figure 42. DVR5100 Control Pad Function Keys

4. To select a monitor format, do one of the following, press a function key on the Control Pad. Press the blue function key to select VGA, press the yellow function key to select NTSC, or press the green function key to select PAL. After you select a monitor format, the DVR5100 restarts, and the Login dialog box appears.
5. Log on to the system and then verify that the default VGA settings are acceptable. For information about DVR5100 default VGA settings, refer to *Monitors* on page 105.
6. Configure primary monitor settings. For information about configuring your primary monitor, refer to *Basic DVR5100 Configuration* on page 53.

Starting and Stopping the DVR5100

USER NAMES AND ACCESS ROLES

The DVR5100 provides four default user names and access roles for use when you start or stop the DVR5100: Administrator, Manager, Operator, and Guest. Each access role is assigned a default user name. Table K describes the features that are available for each user access role and lists their default passwords. You must use the Remote Client application to manage the user roles. For information about managing roles, refer to the *DVR Remote Client Software* manual.

Table K. DVR5100 Series DVR User Groups Access Roles

Role	Features Accessed and Default Passwords
Administrator	A user with the Administrator role is allowed full permission to access and modify all of the DVR5100 features. The Administrator has full access rights and is the only user level with permission to modify every option and value in the Setup page. The default user name is **admin**, and the default password for this user is **23646**. If you use a PC keyboard to enter the password, you may also enter it as **admin**.
Manager	A user with the Manager role is allowed permissions to monitor live video and audio, reposition PTZ cameras, respond to alarms, run scripts, activate relays, search for video, play back video, lock clips, capture snapshots, and export and view all of the Setup windows. The Manager user can view but not modify set up options. The default user name is **manager**, and the default password for this user is **6262437**. If you use a PC keyboard to enter the password, you may also enter it as **manager**.
Operator	A user with the Operator role has permissions to monitor live video and audio, reposition PTZ cameras, respond to alarms, run scripts, activate relays, search for video, play it back, lock clips, and capture snapshots. The default user name for this role is **operator**, and the default password for this user is **67372867**. If you use a PC keyboard to enter the password, you may also enter it as **operator**.
Guest	A user with the Guest role has minimal permissions and is allowed to monitor live video and audio, change layouts, and reposition PTZ cameras. The default user name for this role is **guest**, and the default password for this user is **48378**. If you use a PC keyboard to enter the password, you may also enter it as **guest**.

When you start the DVR5100, a login dialog box automatically appears in the center of the screen (Figure 43). The following default user names and passwords are available for the DVR5100:

Table L. Default User IDs and Passwords

User ID	Password
admin	admin or 23646
manager	manager or 6262437
operator	operator or 67372867
guest	guest or 48378

Contact your DVR5100 system administrator to set up additional accounts or if you forget a password.

To log on to the DVR5100:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. Start the DVR5100 by momentarily pressing the power button. The DVR5100 starts, displays the login dialog box, and flashes the Control Pad Menu button.

   WARNING: Pressing and holding the power button for five seconds shuts down the unit. It is recommended that you not shut down the unit by pressing and holding the power button. To avoid data loss or data corruption, always follow the procedures in *Shutting Down the DVR5100* on page 52 to shut down the unit.

2. In the User Name list, turn the jog (inner dial) on the Control Pad to select the user name.

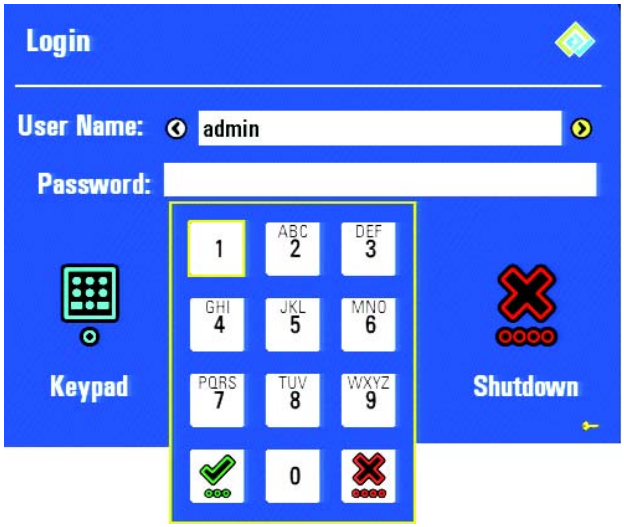


Figure 43. Login Dialog Box With On-Screen Keyboard

3. To enter the password, do the following:

   a. On the Control Pad, press . The on-screen numeric keypad appears. (Figure 43)

   b. Use the joystick to navigate to the first number your password, and then press Enter/Shift on the Control Pad.

   c. Repeat these steps until you have entered the entire password.

   d. Press to accept the password, or press to cancel the password and return to the Login dialog box.

4. From the Login dialog box, press to accept the user name and password. If the password is correct, the DVR5100 displays the main application window. If the password is incorrect, follow the instructions below to re-enter your password.

RE-ENTERING LOGIN INFORMATION

If you enter an incorrect password on the Login dialog box, a message appears asking you to try again.

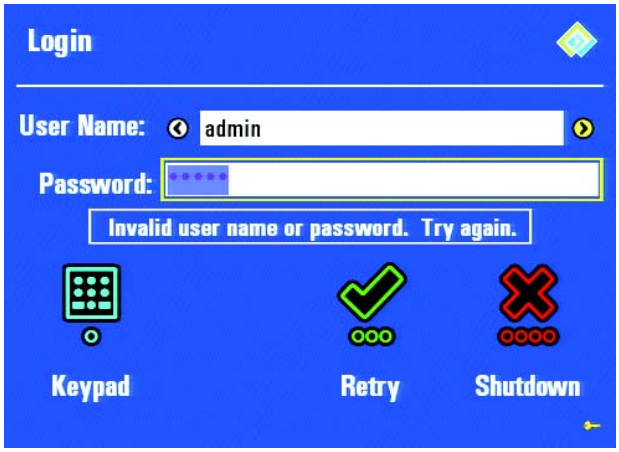


Figure 44. Retry Login Dialog Box

To re-enter your login information:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. Verify that the user name is correct, and then select a different user name if necessary.
2. To re-enter the password, do the following:
   a. On the Control Pad, press . The on-screen keyboard appears. (Figure 43)
   b. Use the joystick to navigate to the first number your password, and then press Enter/Shift on the Control Pad.
   c. Repeat these steps until you have entered the entire password.
   d. Press to accept the password, or press to cancel the password and return to the Login dialog box.
3. From the Login dialog box, press to accept the user name and password. If the password is correct, the DVR5100 displays the main application window.
4. If re-entering your user name and password fails to start the application, contact your system administrator to verify that the user name and password are still valid.

SHUTTING DOWN THE DVR5100

WARNING: Do not shut down the DVR5100 by turning off the power. Doing so can cause data loss or can corrupt the database. Always follow the procedures in this section to turn off the unit.

To shut down the DVR5100:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. From the main menu, select the Logout icon. The Login dialog box appears.

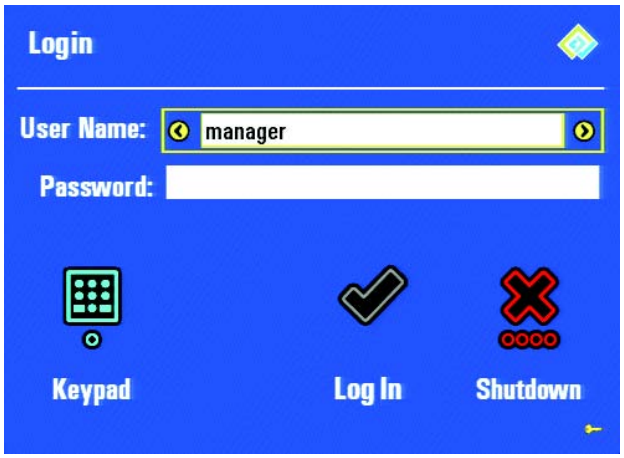


Figure 45. Login Dialog Box

2. Select a user name with administrator permissions, and then enter your password.
3. Press the red function key , or navigate to Shutdown , and then press Enter/Shift . The DVR5100 saves all configuration information and recorded video and then shuts down.

LOGGING OUT

You can log out of the system without shutting down the unit. Doing so avoids unauthorized access to the unit by someone who does not have a user name and password.

To log out:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. From the main menu, select the Logout icon

Figure 46. Logging Out

2. Press Enter/Shift to accept the selection. The Login dialog box appears, and the system closes your worksession. Note that the Login dialog box remains on the screen. You or another operator can log back on to the system from this dialog box.

Basic DVR5100 Configuration

This section describes basic DVR5100 configuration and is organized into the following topics:

- *Configuring the Primary Monitor or Spot Monitor*, below
- *Setting the System Clock* on page 55

For information about advanced configuration, refer to *Administering the DVR5100* on page 110.

CONFIGURING THE PRIMARY MONITOR OR SPOT MONITOR

The DVR5100 default monitor format is VGA. If the VGA monitor default settings are acceptable for your application, you do not need to configure the primary monitor. For information about primary monitor defaults, refer to *Monitors* on page 105.

To configure the primary monitor:

NOTE: These instructions assume that you are already logged on to the system with a user ID that has permissions to the monitor configuration page. Refer to *Starting and Stopping the DVR5100* on page 49 for instructions on logging on to the system.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. On the Control Pad, press Menu. The Main menu is displayed.

Figure 47. Main Menu

2. Navigate to the Setup icon, and then press Enter/Shift. You can also press the red function key to select Setup. The Setup window displays the last page that you used. If this is the first time you have displayed the Setup window, the System Configuration page is displayed.

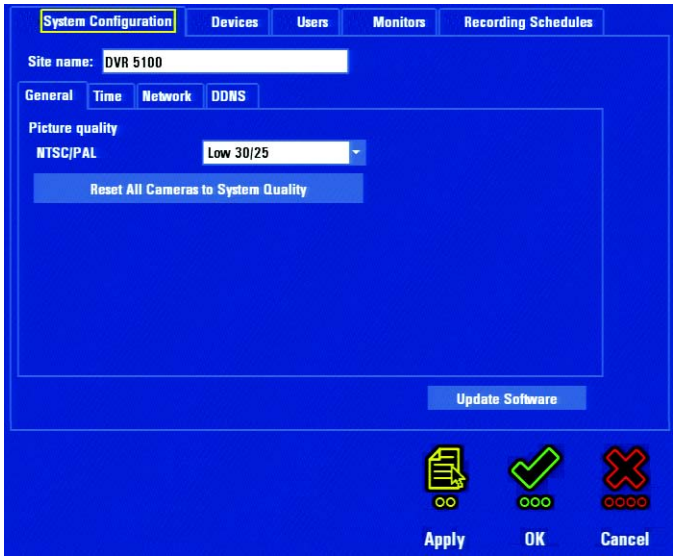


Figure 48. System Configuration Setup Page

3. Use the joystick on the control pad to select the Monitors tab, and then press Enter/Shift. The Monitors setup page is displayed.

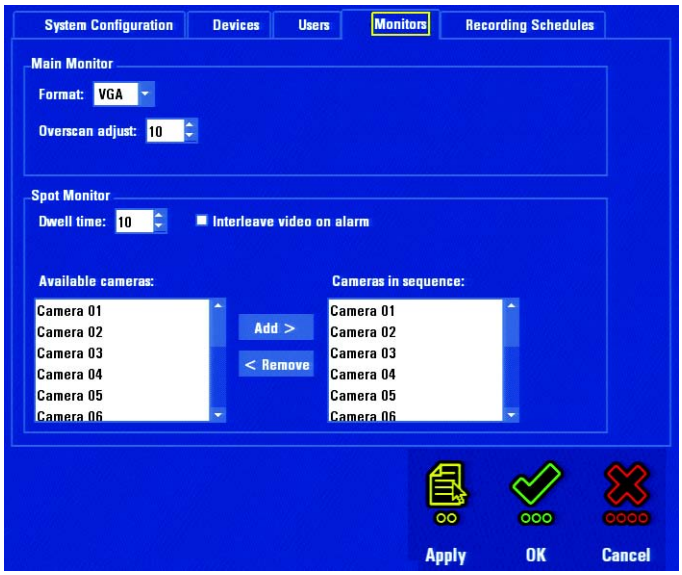


Figure 49. Monitors Setup Page

4. For the main monitor, you can change the following settings:
   - **Format:** Select the monitor format. Options are VGA, PAL, or NTSC.
   - **Overscan adjust:** Set the overscan adjust value.
5. For the spot monitor, you can change the following settings:
   - **Dwell time:** Set the dwell time.
   - **Interleave options:** Check the *Interleave video on alarm* box to enable this option.
   - **Cameras in sequence:** To add cameras to the *Cameras in sequence* list, select a camera in the *Available cameras* list, and then select Add. To remove cameras from the list, select a camera in the *Cameras in sequence* list, and then select Remove.
6. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel. The DVR5100 main application window is displayed.

SETTING THE SYSTEM CLOCK

The DVR5100 allows you to synchronize the date and time with an external time server. You can also set the date and time manually. You may also specify a time zone for the system. If you select an external time server, it is possible that the time server will be in a different time zone than the DVR5100. In such cases, you must set your local time zone to reflect the location of the unit. It is recommended that you configure the date, time, and time zone before working with and recording any video.

If your DVR5100 is not attached to a network, you can set the date and time manually from the Setup window.

WARNING: You must restart the DVR5100 before the changes to time are recognized by the operating system. It can take several minutes for the system to save all of the changes and then restart. If you intend to change network settings as well, it is recommended that you make any necessary changes to time settings and network settings before you save the changes. Doing so will save unnecessary delays caused when you restart the unit while configuring the system.

To set the date and time, you might be required to enter characters. For information about using the Control Pad to enter characters, refer to *Advanced DVR5100 Configuration* on page 57. There are three settings that you can change:

Date. The date is displayed in numerical format as dd/mm/yyyy. For example, May 16, 2006, is entered as 16/05/2006.

- **dd:** Represents day of the month. The range is 01 to 31.
- **mm:** Represents month of the year. The range is 01 to 12.
- **yyyy:** Represents the year. You may select any year.

Time. The time is displayed in a 24-hour format as hh:mm:ss. For example, 8:30 AM and 40 seconds is expressed as: 08:30:40.

- **hh:** Specifies hours. Range is 00 to 23.
- **mm:** Specifies minutes. Range is 00 to 59.
- **ss:** Specifies seconds. Range is 00 to 59.

Time zone. Any time zone in the world may be selected.

To set the date and time:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. Display the Setup window by pressing Menu on the Control Pad and then selecting Setup.

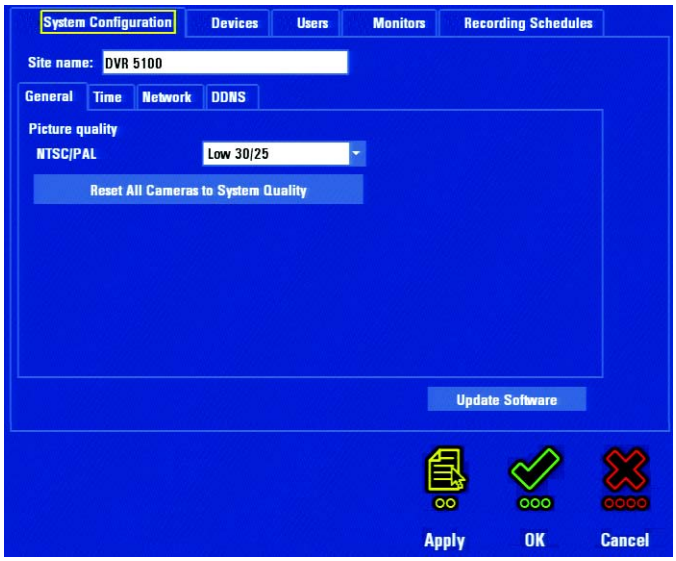


Figure 50. System Configuration Tab of the Setup Window

2. In the System Configuration setup page, select the Time tab. The Time section appears.

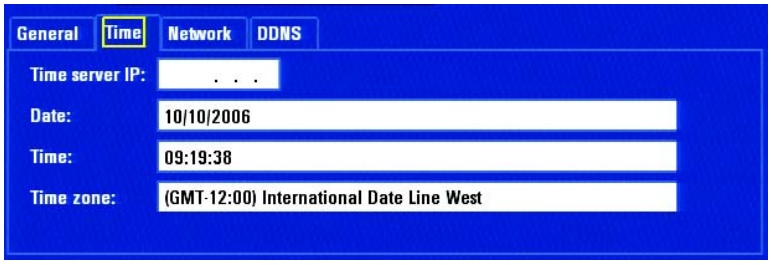


Figure 51. System Clock Dialog Box

3. In the Time section, you can set up the following settings (for information about using the Control Pad to enter characters, refer to *DVR5100 Control Pad* on page 32):
   - **Time server IP:** If the DVR5100 is being synchronized to an external time server, enter the IP address of the time server.
   - **Date:** If the DVR5100 is not being synchronized to an external time server, enter the current date for the unit.
   - **Time:** If the DVR5100 is not being synchronized to an external time server, enter the current time for the unit.
   - **Time Zone:** Select the time zone.

4. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel. The DVR5100 main application window appears.

5. Restart the DVR5100 before continuing.

Advanced DVR5100 Configuration

The DVR5100 provides a front panel Control Pad that allows a user with Administrator role permissions to access the Setup window to configure the unit. The DVR5100 is pre-configured with default settings that allow you to use the DVR5100 without having to configure the unit.

- For information about using the DVR5100 Control Pad, refer to *Understanding DVR5100 Controls and Menus* on page 31.
- For information about the DVR5100 Setup window, refer to *Setup Window* on page 13.
- For information about DVR default settings, refer to *Default Settings for the DVR5100 System* on page 113.

NOTE: Only users with Administrator role permissions are allowed access to the Setup window.

Refer to the following sections to configure the DVR5100:

- *System Configuration* on page 59
- *Devices* on page 67
- *Users* on page 98
- *Monitors* on page 105
- *Recording Schedules* on page 107

To open the Setup window:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. Log into the DVR5100 as an administrator user.
2. On the Control Pad press to display the main menu. If necessary, select the Back button to display the main menu.

Figure 52. DVR5100 Main Menu

3. From the main menu, select . The Setup window opens to the System Configuration page.

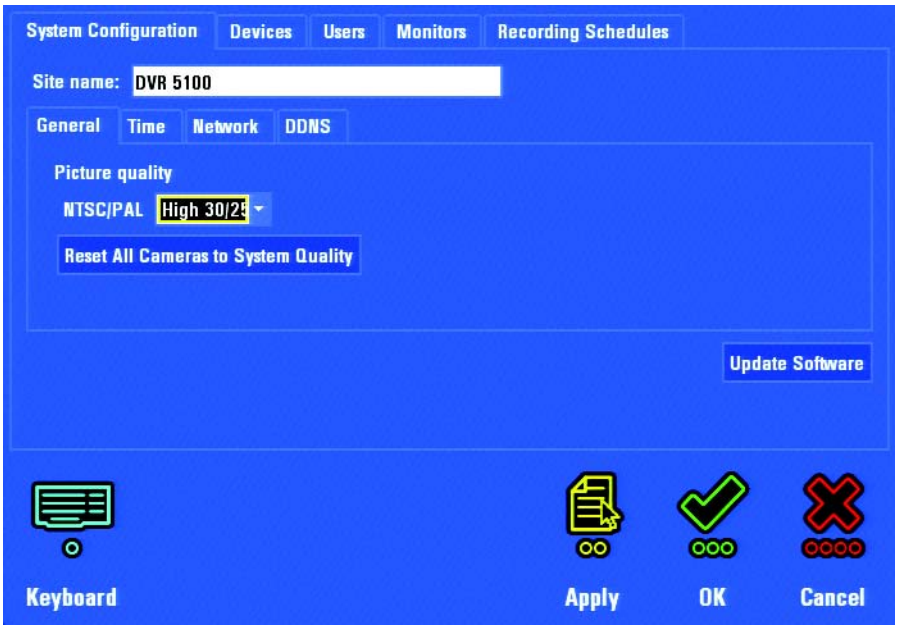


Figure 53. System Configuration Page

System Configuration

This section describes the System Configuration page and how to set DVR5100 system configuration options. For a list of default settings, refer to *Default Settings for the DVR5100 System* on page 113.

This section is organized into the following topics:

- *Site Name* on page 60
- *General Settings* on page 61
- *Time Settings* on page 63
- *Network Settings* on page 64
- *DDNS Settings* on page 65

To open the System Configuration page:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. If the main menu is not already displayed, press the Menu button on the Control Pad. The main menu appears (Figure 52). If necessary, select the Back button to display the main menu.
2. From the main menu, select . The Setup window opens to the System Configuration page.

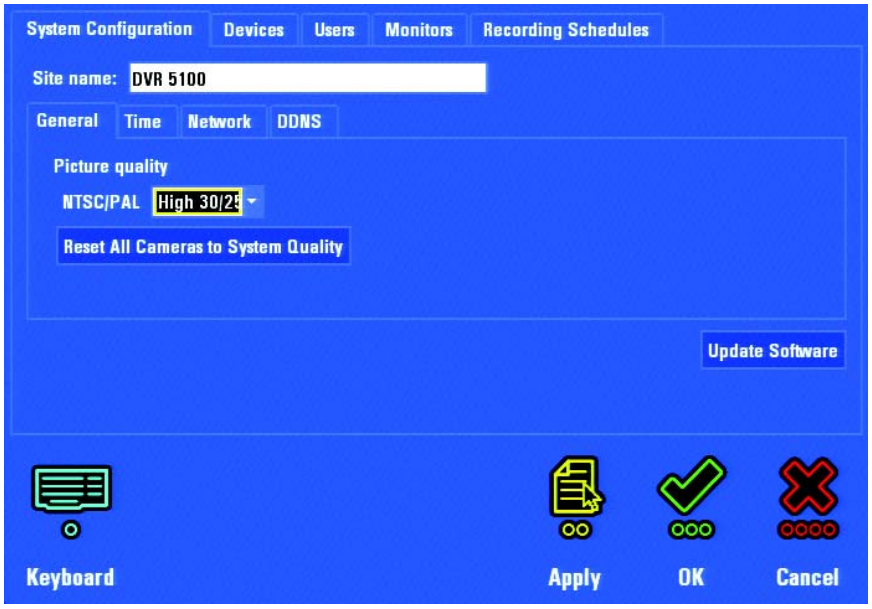


Figure 54. Parts of the System Configuration Page

The System Configuration contains the following:

- **Site name:** Text box for entering the Site name. The site name may be no longer than 100 characters and may include only letters, numbers, or spaces. No special characters are allowed in the site name.
- **Section tabs:** System Configuration settings are organized into tabs labeled General, Time, Network, and DDNS.
- **NTSC/PAL:** A list for setting the global picture quality resolution. This setting can be overridden for individual cameras from the Devices tab.
- **Update Software command:** Allows the DVR5100 software to be updated to the most current release.

SITE NAME

By default, the site name is DVR5100. Only an Administrator user can modify the site name.

To modify the site name:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. From the main menu, select Setup . The Setup window appears (Figure 54).

1. If it is not already displayed, navigate to the System Configuration page.
2. Navigate to the Site name field.

Figure 55. Modifying the Site Name

3. Press the blue function key to display the on-screen keyboard .

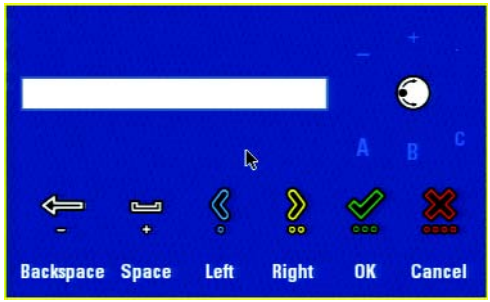


Figure 56. Entering Text From the On-Screen Keyboard

4. Edit the site name, and then select OK to accept the new name and return to the System Configuration page. Refer to *Using the Control Pad to Enter Characters* on page 10 for additional information about using the on-screen keyboard.

5. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed. Select Apply to save the changes and remain in the System Configuration page.

GENERAL SETTINGS

The General tab allows you to configure the picture quality for system-wide display and recording and to reset all cameras to the factory default settings. For information about setting picture quality for individual cameras, refer to *Reset Picture Quality* on page 61.

To change the system-wide picture quality setting:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. If it is not already displayed, select the General tab of the System Configuration page.
2. Navigate to Picture Quality, and select the setting you want for your NTSC or PAL cameras.
3. Turn the jog (inner dial) right or left to select the appropriate setting. Refer to *Picture Quality Settings* on page 62 for a complete list of settings.
4. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the screen. To retain the original settings, select Cancel . The DVR5100 main menu closes.

RESET PICTURE QUALITY

Individual cameras can be assigned different picture quality settings. You can reset all cameras back to their original settings with a single command. Selecting this command forces all of the cameras to switch to the picture quality setting for the system. Resetting all cameras to the system setting for picture quality can take as long as five minutes. If you have the maximum number of cameras attached to your unit, you might notice such a delay in adjusting the picture quality settings.

To reset all cameras to their factory settings:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. If it is not already displayed, select the General tab of the System Configuration page.
2. Navigate to Picture Quality, and select the Reset All Cameras to System Quality command.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main menu closes.

PICTURE QUALITY SETTINGS

The DVR5100 uses one quality stream, resolution, bit rate, and images per second (ips) setting for capturing and recording video. Single and quad layouts display the same stream as the one being recorded; other layouts (nine and sixteen) display a more compact stream, with a lower resolution and frame rate.

NOTE: If the picture quality setting is changed, all affected cameras will stop recording for up to five seconds. This pause will show up as a gap in the search results for those cameras.

Default picture quality options are as follows:

Table M. Default Options for Picture Quality

Quality Options	Video Characteristics (Optimized for recording quality)		
	Resolution	Bit Rate	IPS NTSC (PAL)
Low 30/25	CIF	1.0 Mbps	30 (25)
Low 15/12.5	CIF	800 Kbps	15 (12.5)
Low 10/8.3	CIF	450 Kbps	10 (8.3)
Low 6/5	CIF	350 Kbps	6 (5)
Medium 30/25	2CIF	1.5 Mbps	30 (25)
Medium15/12.5	2CIF	1 Mbps	15 (12.5)
Medium 10/8.3	2CIF	800 Kbps	10 (8.3)
Medium 6/5	2CIF	500 Kbps	6 (5)
High 30/25	4CIF	2 Mbps	30 (25)
High 15/12.5	4CIF	1.5 Mbps	15 (12.5)
High 10/8.3	4CIF	1 Mbps	10 (8.3)
High 6/5	4CIF	800 Kbps	6 (5)

Default image resolution settings are as follows:

Table N. Image Resolution in Pixels

NTSC Resolutions		PAL Resolutions	
4CIF	704 x 480	4CIF	704 x 576
2CIF	704 x 240	2CIF	704 x 288
CIF	352 x 240	CIF	352 x 288

TIME SETTINGS

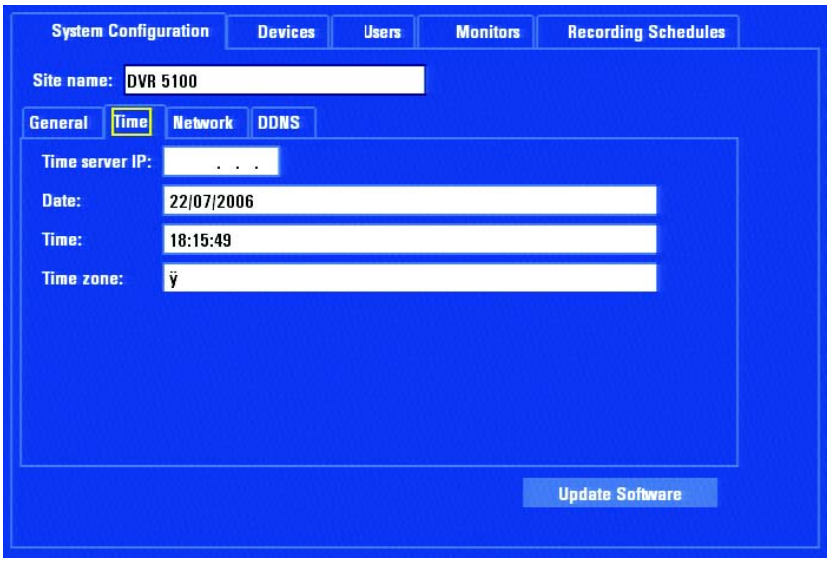


Figure 57. System Configuration Page: Time Tab

The DVR5100 allows you to configure the date and time to be synchronized with an external time server or you can manually set the date and time. You also have the option of specifying the time zone where the DVR5100 is located. If your DVR5100 is not attached to a network, you can set the date and time manually from the Setup menu. For information about setting the date and time, refer to *Setting the System Clock* on page 55.

WARNING: You must restart the DVR5100 before the changes are recognized by the operating system. It can take several minutes for the system to save all of the settings changes and then restart. If you intend to change network settings as well, it is recommended that you make any necessary changes to network settings before you save the changes. Doing so will save unnecessary delays while configuring the system.

The following settings are configured on this tab.

- **Time server IP:** The DVR5100 uses the Network Time Protocol (NTP) to synchronize the clocks of all the devices on the network. By default, time and date information is included with video streams and other device data. Enter the IP address of the computer acting as the Endura NTP time server. (You may need to ask your system administrator for this information.) Use the EndurAdmin interface to set the system time on your NTP server.
- **Date:** Date is displayed in numerical format: dd/mm/yyyyy.
  - **dd:** Represents day of the month. Range is 01 to 31.
  - **mm:** Represents month of the year. Range is 01 to 12.
  - **yyyy:** Represents the year. Range is

  For example, May 16, 2006 is entered as follows: 16/05/2006.
- **Time:** Time is displayed in 24-hour format: hh;mm;ss.
  - **hh:** Specifies hours. Range is 00 to 23.
  - **mm:** Specifies minutes. Range is 00 to 59.
  - **ss:** Specifies seconds. Range is 00 to 59.

  For example, 8:30 AM and 40 seconds is expressed as: 08:30:40.
- **Time zone:** Supports all time zones in the world. Besides providing the correct date and time stamp for recorded video, selecting a time zone also determines whether or not the location uses Daylight Saving Time (or Summer Time in Europe). You should select the time zone and city closest to your location to ensure the correct implementation of this feature.

NETWORK SETTINGS

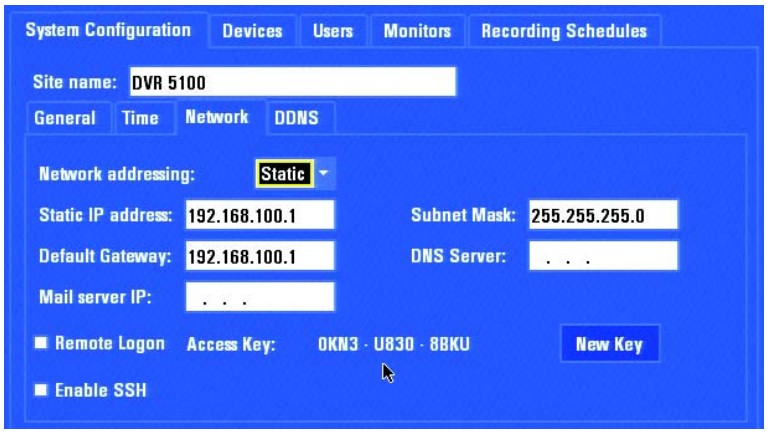


Figure 58. System Configuration Page: Network Section

Using the TCP/IP protocol, multiple DVR5100 Series DVRs can be networked together for remote operation and management. In addition, up to five simultaneous PC clients can connect to each DVR. All connections are made over a secure and encrypted VPN session. The DVR5100 supports both static IP addressing and dynamic addressing through Dynamic Host Configuration Protocol (DHCP). The DVR5100 provides a one-gigabit network port. Your unit must be turned on and connected to an intranet or the Internet, and you must have administrator access to configure network software settings (local or remote access).

⚠ **WARNING:** You must restart the unit before network configuration changes take effect and if you change the time on the system. It is recommended that you select Apply *only after* making all necessary changes to time and network settings before you save them. Doing so eliminates the need to restart the system more than once.

If the DVR5100 is installed behind a router with a firewall, the port mapping on the router must be configured to access to the DVR5100 from the Internet.

The following settings are configured on this tab.

- **Network addressing:** Drop down list box that for selecting if the IP address is assigned automatically using Dynamic Host Configuration Protocol (DHCP) or manually entered (static).
- **Static IP address:** Static network address text field. The static IP address text field is available if the Network addressing is set to Static. If DHCP is used, this field is unavailable.
- **Subnet Mask:** Subnet mask text field. The static Subnet mask text field is available if the Network addressing is set to Static. If DHCP is used, this field is unavailable.
- **Default Gateway:** Default gateway text field. The default gateway text field is available if the Network addressing is set to Static. If DHCP is used, this field is unavailable.
- **DNS Server:** Domain Name Service (DNS) field. If DHCP is used, you can do one of the following:
  - Select to obtain DNS server address automatically
  - Specify the preferred DNS server and an alternate DNS server.
- **Mail server IP:** Field for entering a mail server IP address.
- **Remote Logon:** When selected, the Remote Logon check box lets users connect to the DVR5100 from the remote client application on a PC. Remote connectivity is based on protocol and port number. Currently only TCP connections are permitted. The default port number is 1194. A total of five remote clients may log on to the DVR5100 simultaneously. *You must create a VPN connection on the remote client computer to log on to the DVR5100 from the remote client application.* By default this setting is disabled.
- **Access Key:** When you enable remote access, the DVR5100 creates an access key that must be used to connect to the unit from the remote client. For security reasons this key can be regenerated any time. A user must have the correct access key and user password to connect to the DVR5100 from a remote client.
- **New Key command:** Use this command to create a new access key any time. Each time you create a new access key, the remote client connections must be edited to include this new key. Failure to do so means that the remote client connections will fail.
- **Enable SSH:** Select this setting when you want to allow technical support representative to have access to your system through a remote connection. SSH, sometimes known as Secure Shell or Secure Socket Shell, is a Unix-based command interface and protocol for accessing a remote computer through a secure connection. SSH commands are encrypted and secured in several ways. An SSH connection on the DVR5100 expires automatically after five hours. *Do not enable SSH unless you are instructed to do so by a technical support representative.*

To set up the network information for the system:

1. If it is not already displayed, select the Network tab of the System Configuration page.
2. Navigate to Network Addressing, and then turn the jog (inner dial) to select the address type. Choices are Static and DHCP. If your system uses static IP addresses, you must also enter information for the subnet mask and default gateway. Use the on-screen keyboard to enter the address.
3. If necessary, navigate to DNS Server, and then enter the name of the domain name service server that you use to locate dynamic IP addresses. Use the on-screen keyboard to enter the name.
4. If necessary, navigate to Mail server IP, and then enter the Ip address for the mail server that your system uses. This information is necessary if you intend to send email messages automatically when an alarm occurs on the system. Use the on-screen keyboard to enter the name.
5. If necessary, select the Remote Logon check box if operators will use the DVR5100 remote client application to access the DVR5100 from a remote computer.
6. If necessary, select the New Key command to create a new access key for use by the remote client application. You must give this new key to any user who uses the remote client application.
7. If instructed to do so by a technical support representative, select the Enable SSH check box to allow temporary access to the DVR5100 by a tecnician at a remote location. This feature expires automatically after five hours.
8. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel. The DVR5100 main menu closes.

DDNS SETTINGS

Figure 59. DDNS Section

The DVR5100 allows you to configure Dynamic DNS for your application. DDNS is a service that maps Internet domain names to IP addresses. DDNS serves a similar purpose to DNS: DDNS allows anyone hosting a Web or FTP server to advertise a public name to prospective users.

Unlike DNS that only works with static IP addresses, DDNS works with dynamic IP addresses, such as those assigned by an Internet Service Provider (ISP) or other DHCP server. The DVR5100 DDNS feature is applicable for applications that receive dynamic, frequently-changing IP addresses a service provider.

The following settings and command are available on this tab.

- **Enable DDNS Service:** When selected, the Enable DDNS Service check box enables DDNS.
- **Services:** Specifies the name of the service that lists your IP addresses and domain alias.
- **DDNS:** The name of the domain alias for your system.
- **User:** The registered user name submitted to the DDNS service provider.
- **Password:** Registered password entered in association with the user name.
- **Force DDNS Update command:** Allows you to update DDNS information manually. Using this command is similar to releasing and renewing IP addresses.

To set up the dynamic DNS information for the system:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. If it is not already displayed, select the DDNS tab of the System Configuration page.
2. Select the Enable DDNS Service check box if your system will use DDNS.
3. Navigate to Services, and then turn the jog (inner dial) to select the service with which your site is registered.
4. Navigate to DDNS, and then enter the name of your domain name alias. Use the on-screen keyboard to enter the name.
5. Navigate to User, and then enter the user name that is registered with this service. Use the on-screen keyboard to enter the name.
6. Navigate to Password, and then enter the password for the registered user. Use the on-screen keyboard to enter the name.
7. If necessary, select the Force DDNS Update to renew the IP address.
8. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main menu closes.

Devices

Figure 60. Devices Tab

The Devices page allows you to configure alarms, cameras, DVR EnduraStor, relays, and the system logger. You may only make changes to a camera when it is on line. If a device is not currently on line, its icon appears with a red slash mark across it and the text in the right-hand panel is grayed out, indicating that you cannot make changes.

The following settings are available on the Devices tab. The devices are listed in the left pane and their associated settings are listed in the right pane.

- **Device Selection list:** Configuration options for a selected device are displayed in the content pane. DVR5100 supports these devices:
  - Alarm Array
  - Cameras
  - DVR
  - Relay Array
  - System Logger
- **Name:** Device name. Displays the name of the device selected in the Devices Selection pane.
- **Content:** Content pane. Provides access to device configuration options.
- **Alarm Array:** Provides access to alarm configuration options. One alarm array consists of 16 alarms. Each alarm is assigned to its respective camera input. For example, alarm 1 is assigned to camera input 1 and so forth.
- **Cameras:** Provides access to camera configuration options. Up to 16 cameras are connected to one DVR5100
- **DVR:** Provides access to EnduraStor and serial port configuration options.
- **Relay Array:** Provides access to relay configuration options. One relay is provided for every four channels as follows:
  - One relay output is provided for a 4-channel DVR.
  - Two relay outputs (1, 2 for channels 1 and 2, respectively) are provided for an 8-channel DVR.
  - Four relay outputs (1, 2 for channels 1 and 2, respectively and 3, 4 for channel 9 and 10, respectively) are provided for a16-channel DVR.
- **System Logger:** Provides access to system log configuration options. Depending on the configuration, the DVR5100 will generate the following system messages:
  - All (operating and debugging)
  - Operating only
  - Debugging only

WORKING WITH DEVICES

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To select a device to configure:

1. From the main menu, select Setup and press Enter/Shift. As an alternative, press. The Setup window is displayed.
2. On the Control Pad, use the joystick to select the Devices tab.
3. Use the joystick to navigate to the Device selection list.
4. Turn the jog (inner dial) clockwise or counterclockwise to move down or up the list.
5. With a category selected, press the Plus button on the Control Pad to expand the device tree (for example, the alarm array or camera devices).

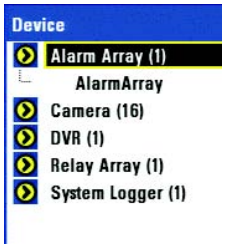


Figure 61. Expanding the Device Tree

6. After a list is expanded, use the jog to select a device from the list. The configuration options for the selected device are displayed in the Contents pane. If you change settings for a device and then select a different device before you save the changes, a message appears prompting you to save the changes you have made or cancel the action. Select to save the changes or select to cancel them.

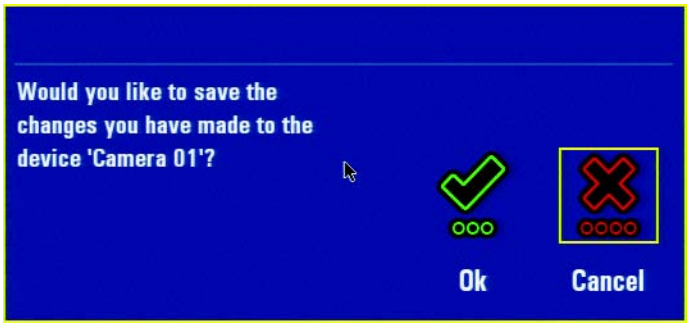


Figure 62. Saving Changes to Devices

RENAMING DEVICES

The device category (Alarm Array, Camera, DVR, Relay Array, and System Logger) cannot be renamed. The list of devices within each category can be renamed using the Control Pad, allowing you to easily identify and configure all related devices: associated alarms, cameras, and relays.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To rename a device:

1. With the Devices tab displayed, select a device.

2. Use the joystick to navigate to the Name field, and then press the blue function key to display the on-screen keyboard .

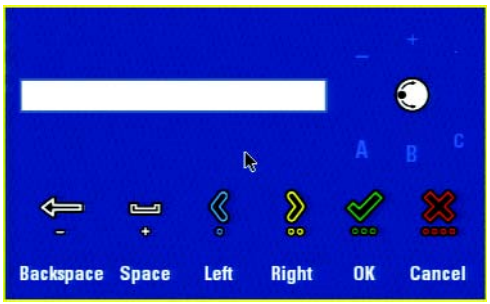


Figure 63. Renaming a Device With the On-Screen Keyboard

3. Make any necessary changes to the device name, and then select OK to save the changes. Refer to *Using the Control Pad to Enter Characters* on page 10 for additional information.

4. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel. The DVR5100 main application window is displayed.

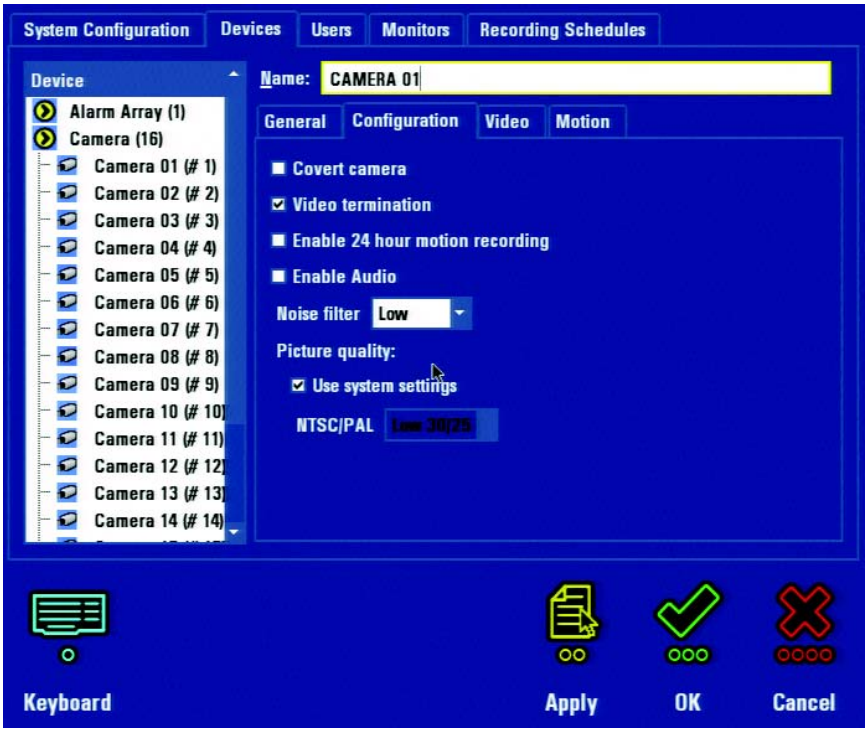


Figure 64. Renaming a Device

ALARM ARRAY SETUP

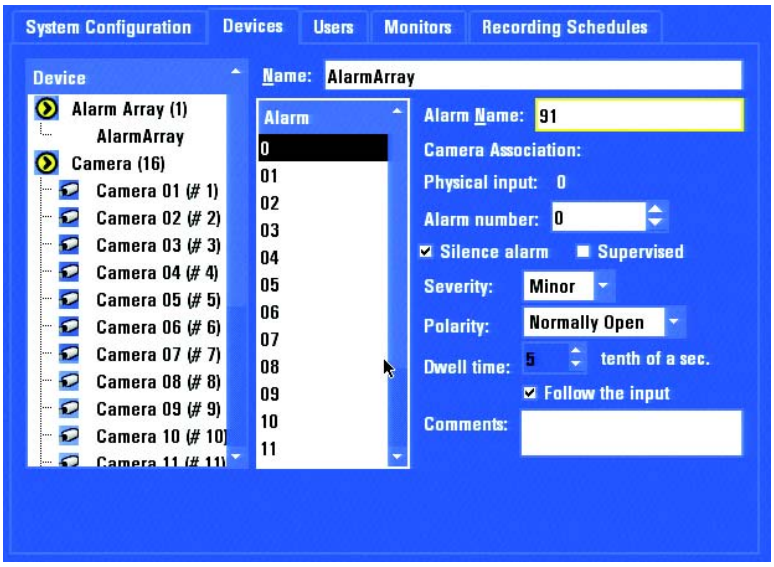


Figure 65. Setting Up an Alarm Array

The DVR5100 provides 1 alarm input for each camera. The alarm inputs can be configured separately. For information about connecting alarm inputs, refer to *Connecting Alarms* on page 26. Alarms are not displayed in the Alarm Received pop-up window until the specified alarm input is configured. To monitor and respond to alarms, users must be assigned a role that includes access to the service.

Refer to the following sections for instructions on configuring and editing alarm arrays:

- *Modifying an Alarm Device Name* on page 71
- *Modifying the Alarm Input Name* on page 71
- *Assigning an Unique ID for an Alarm Input* on page 72
- *Selecting an Alarm Input Operating Mode* on page 73
- *Selecting the Severity Level* on page 73l
- *Setting the Alarm Input Polarity* on page 74
- *Setting Alarm Input Dwell Time* on page 74
- *Creating an Alarm Comment* on page 75

The DVR5100 provides the following setup information to configure alarm arrays.

- **Alarm Array:** Alarm Array device category that includes the alarm device. The alarm array consists of up 16 alarm inputs. The category name cannot be modified.
- **Alarm:** List box that displays the number (default) or name of the alarm. The entry highlighted in this box is directly associated with the physical alarm input number displayed in the *Modify Alarm* area *Physical Input* label. (By default, the alarm inputs displayed are numbered 0 to 15.) The default entries in the Alarm list box are 0 to 15. When a entry is selected in the Alarm list box, the same entry is displayed in the *Modify Alarm* area's *Name* text box.

  One programmable alarm input is provided for each video input. The alarm inputs are organized as follows:

  - Alarm input 1–4 maps to video input 1–4
  - Alarm input 5–8 maps to video input 5–8
  - Alarm input 9–12 maps to video input 9–12
  - Alarm input 13–16 maps to video input 13–16
- **Name:** Text box that displays the name of the alarm device. The default name is AlarmArray. The DVR5100 allows you to modify the name.
- **Modify Alarm:** The *Modify Alarm* area provides options that allow you to customize parameters for each alarm input.
- **Name:** A text box that displays the alarm number or name for the selected alarm. You can modify the entry displayed in this field.
- **Camera Association:** Label that displays the name of the associated camera. The associated camera must be configured to record in response to the alarm selected in the Alarm list box.
- **Physical Input:** Label that displays the number representing the physical connector to which the alarm input is connected. This number cannot be modified.

- **Alarm Number:** Assigns a unique number to the selected alarm in the Alarm list box.
- **Silence Alarm:** When selected, the alarm for the associated alarm input is silenced.
- **Supervised:** When selected, the specified alarm input operates in the supervised alarm mode. When an alarm is configured as a supervised alarm, the DVR5100 maintains a constant electrical current through the alarm circuit (5.0 VDC, 10 kΩ), including a 10 kΩ resistor. If the resistance changes, due to an electrical short or a bypass, the voltage fluctuates from its normal state. Therefore, the unit triggers an alarm. For information about wiring an alarm input to operate in the supervised mode, refer to *Supervised Alarms* on page 26.
- **Severity:** Assigns the alarm severity for a particular alarm input. Alarm severity determines the type of alarm (Minor [default], Normal, Major, Critical) that will broadcast when an alarm condition is triggered. This, in turn, determines which users receive notification of the alarm.
- **Polarity:** Selects the polarity for the alarm. Options are Normally Open (default) and Normally Closed.
- **Dwell Time:** Controls how long an alarm state remains engaged. The dwell time is set from 5 tenths of a second to 1,000 tenths of a second (100 seconds). The default value is 110 tenths of a second (11 seconds).
- **Follow the Input:** Controls how long an alarm state remains engaged.When selected, this option causes the alarm state to follow the input instead of being controlled by the dwell time. In this case, the dwell time option is unavailable. The alarm state is engaged as long as the event that triggered the alarm is active. For example, if an opened door triggered an alarm, the alarm state is engaged until the door is closed.
- **Comments:** Provides instructions or actions that an operator should take if this alarm is triggered. The comments are displayed in the Alarm Notification dialog box.

MODIFYING AN ALARM DEVICE NAME

The default name for an alarm device is AlarmArray. You use the default name, modify the name, or create a new name.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To modify an alarm device name:

1. Select the alarm device on the Devices tab of the Setup window. For information about selecting a device, refer to *Working With Devices* on page 68.
2. In the Device page, navigate to the Name text box where the device name is displayed.
3. Use the Control Pad to modify the device name or enter a new name. Refer to *Renaming Devices* on page 68 for additional information.
4. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

MODIFYING THE ALARM INPUT NAME

For alarm arrays, you can also rename the individual alarms in the array. In this case, you select the alarm number 1 to 16, and then enter a user-friendly name for the alarm. Assigning a friendly name makes it easier to recognize individual devices on your network. The name must contain fewer than 100 characters and may include only letters, numbers, or spaces. No special characters are allowed in these names.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To modify the alarm input name:

1. If it is not already displayed, select the alarm device on the Devices tab of the Setup window. For information about selecting a device, refer to *Working With Devices* on page 68.
2. Move to the Alarm list box. The configuration options for the selected alarm input are displayed in the Contents pane. The alarm name is displayed in the Alarm Name text box.

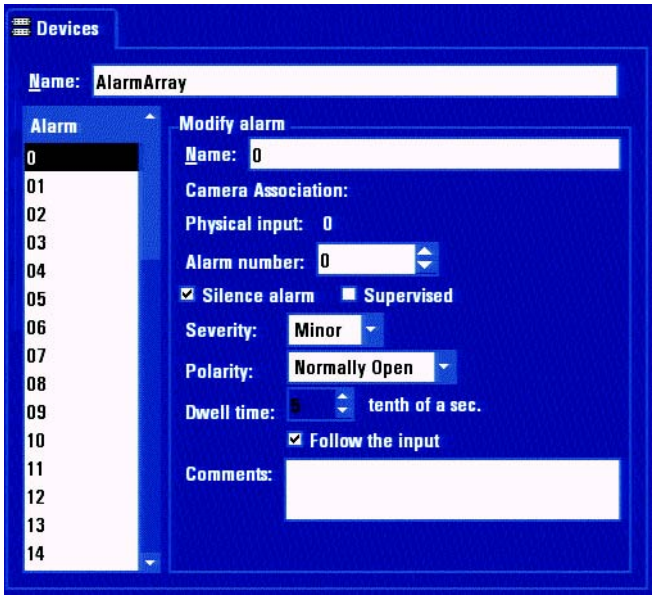


Figure 66. Modifying an Alarm Input

3. Use the Control Pad to modify the alarm input name. Refer to *Renaming Devices* on page 68 for additional information.
4. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel. The DVR5100 main application window is displayed.

ASSIGNING AN UNIQUE ID FOR AN ALARM INPUT

You can assign an unique identification number to an alarm input.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To assign an alarm number to an alarm input:

1. If it is not already displayed, select the alarm device on the Devices tab of the Setup window. For information about selecting a device, refer to *Working With Devices* on page 68.
2. Move to the Alarm list box. The configuration options for the selected alarm input are displayed in the Contents pane. The alarm name is displayed in the Modify Alarm Name text box. (Refer to Figure 66.)
3. Select an alarm input name, and then navigate to Alarm Number.
4. Turn the jog clockwise or counterclockwise to assign a number to alarm input.
5. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel. The DVR5100 main application window is displayed.

SELECTING AN ALARM INPUT OPERATING MODE

By default, all alarm inputs are set to operate in the silent alarm mode. This means that the alarm input will not display an alarm message when triggered. All alarm in puts are also set to operate in the unsupervised mode. For information about connecting an alarm input to operate in the unsupervised or supervised mode, refer to *Connecting Alarms* on page 26. To change either the silent alarm mode setting follow these instructions:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To enable the alarm input to display an alarm message when triggered:

1. If it is not already displayed, select the alarm device on the Devices tab of the Setup window. For information about selecting a device, refer to *Working With Devices* on page 68.
2. Move to the Alarm list box. The configuration options for the selected alarm input are displayed in the Contents pane. The alarm name is displayed in the Modify Alarm Name text box.
3. Select an alarm input name, and then navigate to the alarm mode that you want to modify (Figure 66).
4. To change the silent alarm mode:
   - **Turn off silent alarm:** If you want to enable the alarm input to display an alarm message, clear the Silence Alarm check box. By default, all alarm inputs are set to the silent mode (that is, the Silence Alarm box is selected).
   - **Turn on silent alarm:** If you want to silence the alarm input, check the Silence Alarm box to enable the option.
5. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

SELECTING THE SEVERITY LEVEL

The severity determines how alarms are announced and who receives the announcement. To ensure that the correct users receive information about alarms, review the Alarm Notification settings on the Users tab. Severity levels include the following:

- Minor
- Normal (default)
- Major
- Critical

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To set the severity level:

1. If it is not already displayed, select the alarm device on the Devices tab of the Setup window. For information about selecting a device, refer to *Working With Devices* on page 68.
2. Move to the Alarm list box. The configuration options for the selected alarm input are displayed in the Contents pane. The alarm name is displayed in the Modify Alarm Name text box.
3. Select an alarm input name. The name of the selected alarm input is displayed in the Modify Alarm Name text box.
4. Navigate to the Severity list, and then select an alarm severity level. (Refer to Figure 66 on page 72.)
5. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

SETTING THE ALARM INPUT POLARITY

The DVR5100 allows you to set the alarm input's polarity. By default, the alarm polarity is normally open. You set the polarity to operate as normally closed. The dwell time is initially set to 110 tenths of a second.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To set the alarm input polarity and dwell time:

1. Display the alarm device configuration options. For information about selecting a device, refer to *Working With Devices* on page 68.
2. Move to the Alarm list box. The configuration options for the selected alarm input are displayed in the Contents pane. The alarm name is displayed in the Modify Alarm Name text box.
3. Select an alarm input name. The name of the select alarm input is displayed in the Modify Alarm Name text box.
4. In Polarity, select the polarity for the specified alarm. (Refer to Figure 66 on page 72.) Options are normally open (default) and normally closed.
5. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

SETTING ALARM INPUT DWELL TIME

The DVR5100 allows you to select how long the alarm condition stays active. There are two dwell time options:

- Dwell Time in Tenths of a Second
- Follow the Input

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. Display the alarm device configuration options. For information about selecting a device, refer to *Working With Devices* on page 68.
2. Move to the Alarm list box. The configuration options for the selected alarm input are displayed in the Contents pane. The alarm name is displayed in the Modify Alarm Name text box.
3. Select an alarm input name. The name of the select alarm input is displayed in the Modify Alarm Name text box.
4. Set the dwell time. Move to Dwell time, and then turn the jog right or left to set the dwell time.

   OR

5. Set the Follow the Input setting. Move to the Follow the Input box, and then press Enter/Shift to select it. In this case, the Dwell Time is unavailable.
6. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

CREATING AN ALARM COMMENT

The DVR5100 allows you to create a comment about an alarm event. You use the Comments text box to communicate actions you would like the operator to take if this alarm is triggered. The alarm message is displayed in the Alarm Notification window.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To create an alarm comment:

1. Display the alarm device configuration options. For information about selecting a device, refer to *Working With Devices* on page 68.
2. Move to the Alarm list box. The configuration options for the selected alarm input are displayed in the Contents pane. The alarm name is displayed in the Modify Alarm Name text box.
3. Select an alarm input name. The name of the select alarm input is displayed in the Modify Alarm Name text box.
4. Navigate to the Comments box, and then type the message. (Refer to Figure 66 on page 72.)
5. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel. The DVR5100 main application window is displayed.

CAMERA SETUP

The DVR5100 provides options that allow you to configure fixed, pan and tilt, and dome cameras. The Camera category is organized as follows:

- Selection pane
- General tab
- Configuration tab
- Video tab
- Motion tab (available on some cameras)

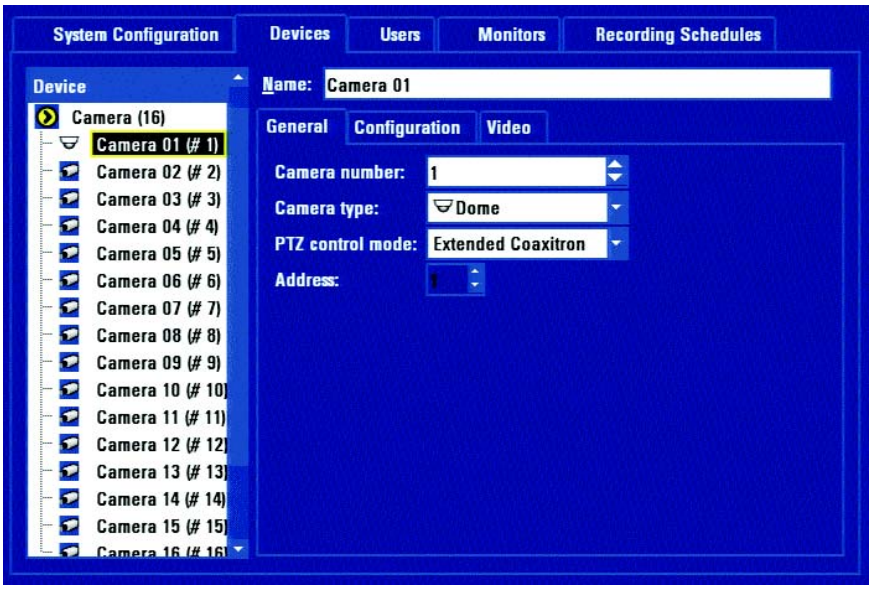


Figure 67. Camera Configuration: General Settings

UNDERSTANDING THE GENERAL SETTINGS FOR CAMERAS

Refer to the following sections for instructions on configuring and editing general settings for cameras:

- *Displaying the General Section Camera Options* on page 77
- *Modifying a Camera Name* on page 77
- *Modifying the Camera Number* on page 78
- *Selecting the Camera Type* on page 78
- *Selecting PTZ Protocol* on page 78
- *Selecting the Camera Address* on page 79

The DVR5100 provides the following general settings for configuring cameras.

- **Camera 01 (#1):** The Camera device number 1 through 16. Camera 01 (#1) is the default name and can be modified.
- **Name:** The name of the camera selected in the Device Selection pane. The camera name can be modified.
- **Camera Number:** Assigns a unique number for the specified camera. Each camera must be assigned a unique number.
- **Camera Type:** List that assigns the type camera associated with the camera selected in the Device Selection pane. The options are: fixed, pan/tilt, and dome.
- **PTZ Control Mode:** List that assigns the PTZ control mode. The available options are: Disabled, Coaxitron, Extended Coaxitron, D-Protocol, and P-Protocol.

  The DVR5100 accommodates fixed cameras that transmit NTSC/PAL signals and positioning systems that use several protocols. When selecting a protocol for a PTZ camera, consider whether or not you require bidirectional communication between cameras and the DVR. Pelco D Protocol supports bidirectional communication, which allows the DVR5100 and cameras to communicate with each other. This is useful if you want to log the occurrence of alarm events about the camera in the system log, to obtain positioning information about the camera such as its elevation or azimuth, and to review additional information like the camera's current magnification.
- **Address:** Assigns a unique address for the specified camera.

WORKING WITH THE GENERAL SECTION CAMERA OPTIONS

This section describes how to use the General section to configure camera options and is organized into the following topics:

- *Displaying the General Section Camera Options* on page 77
- *Modifying a Camera Name* on page 77
- *Modifying the Camera Number* on page 78
- *Selecting the Camera Type* on page 78
- *Selecting PTZ Protocol* on page 78
- *Selecting the Camera Address* on page 79

DISPLAYING THE GENERAL SECTION CAMERA OPTIONS

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To access the General section (default view) camera device options:

1. From the main menu, select Setup and press Enter/Shift. The Setup window is displayed.
2. On the Control Pad, use the joystick to select the Devices tab. By default, the General tab is displayed (refer to *Camera Configuration: General Settings* on page 75).
3. Press down on the joystick until you have selected a camera. If necessary, press to expand the device tree.

Figure 68. Camera Category

4. In the Device Selection pane, use the jog to select a camera device, for example Camera 01 (#1). The configuration options are displayed in the Contents pane and the device name is displayed in the Name text box.

MODIFYING A CAMERA NAME

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To modify a camera name:

1. If it is not already open, display the General section camera device options on the Devices tab of the Setup window. For information about accessing General section camera device options, refer to *Displaying the General Section Camera Options*, above.
2. Select the Name text box. Refer to Figure 67 on page 75.
3. Use the Control Pad to modify the device name. The default name for camera 1 is "Camera 01." Refer to *Renaming Devices* on page 68 for additional information.
4. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel. The DVR5100 main application window is displayed.

MODIFYING THE CAMERA NUMBER

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To modify the camera number:

1. If it is not already open, display the General section camera device options on the Devices tab of the Setup window. For information about accessing General section camera device options, refer to *Displaying the General Section Camera Options* on page 77.
2. Navigate to Camera Number, and then select a number. The DVR5100 will not allow duplicate camera numbers to be entered.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

SELECTING THE CAMERA TYPE

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To select the Camera type:

1. If it is not already open, display the General section camera device options on the Devices tab of the Setup window. For information about displaying General section camera device options, refer to *Displaying the General Section Camera Options* on page 77.
2. Navigate to Camera Type, and then select a camera type. Options are Dome, Pan & Tilt, and Fixed.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

SELECTING PTZ PROTOCOL

The DVR5100 accommodates fixed cameras that transmit NTSC/PAL signals and positioning systems that use several protocols. When selecting a protocol for a PTZ camera, consider whether or not you require bidirectional communication between cameras and the DVR. Pelco D Protocol supports bidirectional communication, which allows the DVR5100 and cameras to communicate with each other. This is useful if you want to log the occurrence of alarm events about the camera in the system log, to obtain positioning information about the camera such as its elevation or azimuth, and to review additional information like the camera's current magnification.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To select the PTZ protocol:

1. If it is not already open, display the General section camera device options on the Devices tab of the Setup window. For information about displaying General section camera device options, refer to *Displaying the General Section Camera Options* on page 77.
2. Select a camera from the Cameras list to view general settings for a specific camera. Navigate to PTZ Control Mode, and then turn the jog (inner dial) clockwise or counterclockwise to select the protocol that works with the selected camera. Options are Disabled, Coaxitron, Extended Coaxitron, P - Protocol, and D - Protocol
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

NOTE: You must also configure the DVR serial port settings for PTZ operation to work properly. Refer to *Configuring Serial Port Settings* on page 91 for additional information.

SELECTING THE CAMERA ADDRESS

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To assign an address to a camera:

1. If it is not already open, display the General section camera device options on the Devices tab of the Setup window. For information about displaying General section camera device options, refer to *Displaying the General Section Camera Options* on page 77.
2. Navigate to Address, and then turn the jog (inner dial) right or left to select an address. The address is available only when you have selected D Protocol or P Protocol for the PTZ control mode.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel. The DVR5100 main application window is displayed.

CAMERA CONFIGURATION SETTINGS

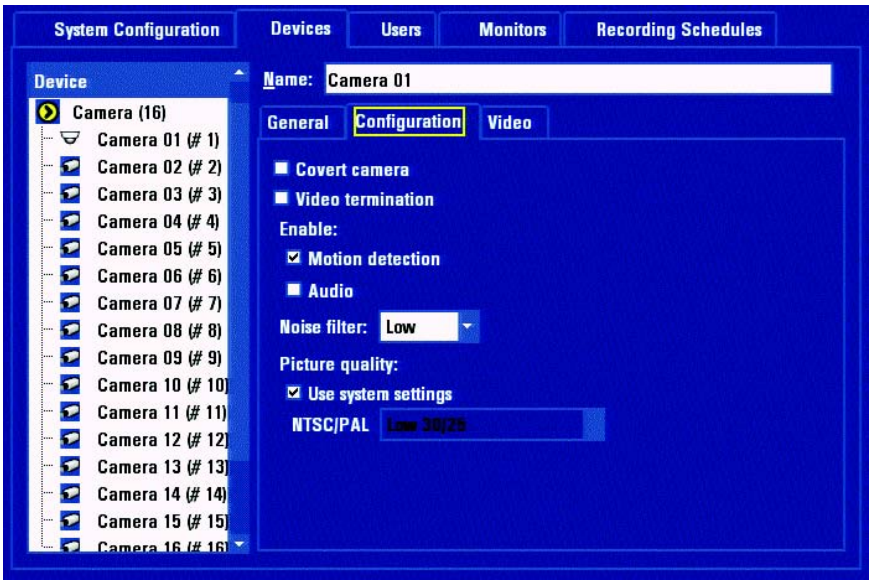


Figure 69. Configuring Cameras: Configuration Tab

Refer to the following instructions to modify the Configuration settings for a camera.

- *Displaying the Configuration Section Camera Options* on page 80
- *Setting Up a Camera for Covert Operation* on page 81
- *Selecting Video Termination* on page 81
- *Enabling Motion Detection* on page 81
- *Enabling Audio* on page 82
- *Setting Up the Noise Filter* on page 82
- *Setting Up Picture Quality* on page 82

The DVR5100 provides the following general settings for configuring cameras.

- **Covert Camera:** Check this box to operate the camera in covert mode. If a camera is set to covert operation, the DVR5100 records video from the camera but does not display the video.
- **Video Termination:** Check box that allows the specified camera to be terminated. If available, enable or disable video termination by clicking the check box. Video termination lessens the effects of ghost images on the final device when several video devices are connected together in a chain.
- **Enable 24 Hour Motion Recording:** Check this box to enable motion detection for the specified camera.

  You may set up a maximum of three motion detection zones per camera. These zones may be any size and shape, and they may be set to high or low sensitivity to motion. Motion settings may be used to trigger alarms of varying severity (minor, normal, major, or critical) which can be included in recording schedules. From the video pane, you may show or hide detected motion. You may also search for motion events using Quick or Enhanced Search.
- **Enable Audio:** Check this box to enable audio for the specified camera. If the camera is equipped with a microphone, you can record audio along with the video, and you can listen to it when you play back the video.
- **Noise Filter:** Provides three options for setting the noise filter: Low (default), Medium, and High. This filter removes high frequency noise from the camera to improve the quality of the encoded video signal.
- **Picture Quality:** The Picture Quality group provides options setting picture quality for the specified camera. A higher picture quality consumes more network bandwidth and hard disk storage space, but it preserves a better representation of the recorded video.
- **Use System Settings:** Check this box to use set the picture quality for this camera to the same settings that were set up on the System Configuration page.
- **NTSC/PAL:** List of resolution settings for NTSC or PAL cameras for display and recording for the specified camera. If "Use System Settings" is selected, the NTSC/PAL list is unavailable. Refer to *Picture Quality Settings* on page 62 for a description of each setting.

DISPLAYING THE CONFIGURATION SECTION CAMERA OPTIONS

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To display the Configuration section camera options:

1. From the main menu, select Setup and press Enter/Shift . As an alternative, press . The Setup window is displayed.
2. On the Control Pad, use the joystick to select the Devices tab. By default, the General tab is displayed.
3. Select the Configuration tab. The Configuration section is displayed. Refer to Figure 69 on page 79.
4. Press down once on the joystick. The cursor moves to the Selection pane and highlights a device in the list.
5. Navigate to the Camera (16) category.
6. Press to expand the device tree.
7. In the Device Selection pane, use the jog to select a camera device. The configuration options are displayed in the Contents pane and the device name is displayed in the Name text box.

SETTING UP A CAMERA FOR COVERT OPERATION

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To set up a camera for covert operation:

1. If it is not ready open, select the Configuration tab for a camera of the Devices tab on the Setup window. For information about displaying Configuration section camera device options, refer to *Displaying the Configuration Section Camera Options*, above.
2. Navigate to the Covert Camera check box and do one of the following (refer to Figure 69 on page 79):
   - To operate a camera in the covert mode, select the Covert Camera check box.
   - To take a camera out of the covert mode, clear the Covert Camera check box.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

SELECTING VIDEO TERMINATION

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To set up a camera for video termination:

1. If it is not ready open, select the Configuration tab for a camera of the Devices tab on the Setup window. For information about displaying Configuration section camera device options, refer to *Displaying the Configuration Section Camera Options*, above.
2. Select the Video Termination to enable this option.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

ENABLING MOTION DETECTION

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To set up a camera for motion detection:

1. If it is not ready open, select the Configuration tab for a camera of the Devices tab on the Setup window. For information about displaying Configuration section camera device options, refer to *Displaying the Configuration Section Camera Options*, above.
2. Navigate to the Motion Detection check box and select it.
3. Display the General tab, and modify the silent alarm setting as follows:
   - If you want an alarm to be triggered when motion is detected, clear the "Silence Alarm" check box.
   - If you do not want an alarm to be triggered when motion is detected, select the "Silence Alarm" check box.
4. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

ENABLING AUDIO

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To enable audio recording:

1. If it is not ready open, select the Configuration tab for a camera of the Devices tab on the Setup window. For information about displaying Configuration section camera device options, refer to *Displaying the Configuration Section Camera Options* on page 80.
2. Navigate to the Enable Audio check box, and then select it. (Refer to Figure 69 on page 79.)
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

SETTING UP THE NOISE FILTER

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To select a noise filter:

1. If it is not ready open, select the Configuration tab for a camera of the Devices tab on the Setup window. For information about displaying Configuration section camera device options, refer to *Displaying the Configuration Section Camera Options* on page 80.
2. Navigate to the Noise Filter list, and then turn the jog right or left to select an option: Low, Medium, or High.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

SETTING UP PICTURE QUALITY

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To set up picture quality:

1. If it is not ready open, select the Configuration tab for a camera of the Devices tab on the Setup window. For information about displaying Configuration section camera device options, refer to *Displaying the Configuration Section Camera Options* on page 80.
2. Navigate to the User System Settings check box and do one of the following:
   - Check the Use System Settings box to use the picture quality selected on the System Configuration page.
   - To use a custom picture quality for the selected camera, clear the Use System Settings check box, and then select a setting from the NTSC/PAL list. You can choose several options for Low, Medium, or High quality. The numbers next to the setting indicate the number of images per second that will be recorded. The first number is for NTSC cameras; the second is for PAL cameras. Refer to *Picture Quality Settings* on page 62 for a complete list of picture quality settings.

   NOTE: If the picture quality settings are changed, the affected camera will stop recording for up to five seconds. This pause will show up as a gap in your search results for that camera.

   There are several IPS rates available for each picture quality setting. Refer to Table N, *Image Resolution in Pixels,* on page 62, for a description of each setting.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

VIDEO SETUP

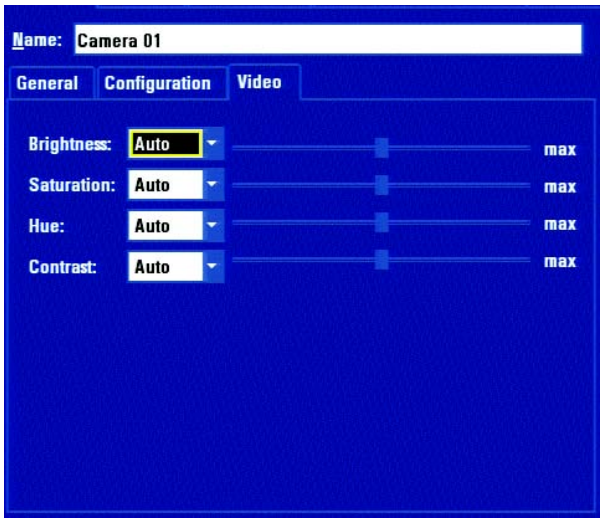


Figure 70. Configuring Cameras: Video Tab

From the DVR5100 you can configure color settings for live and recorded video. By default these settings are determined automatically by the system. The following settings may be configured for video quality.

- **Brightness:** The brightness information at any particular instant in a picture is conveyed by the corresponding DC level of the active video. Brightness control should be adjusted so that black picture content displays as true black on the monitor.
- **Saturation:** The intensity of colors in the active picture. The degree by which the eye perceives a color as departing from a grey or white scale of the same brightness. A 100% saturated color does not contain any white. Adding white reduces saturation. The color saturation at any particular instant in a picture is conveyed by the corresponding amplitude of the active video subcarrier.
- **Hue:** A characteristic that distinguishes one color from another by defining a color based on its position on the spectrum. The hue information at any particular point in the picture is conveyed by the corresponding instantaneous phase of the active video subcarrier.
- **Contrast:** The difference between the darkest and brightest parts of an image. Once brightness is set correctly, contrast should be set comfortable viewing brightness.

If Manual is selected, adjust the setting's value as well.

Refer to the following instructions to modify the Configuration settings for a camera.

- *Displaying the Video Tab Camera Options*, below
- *Modifying the Video Setting Levels* on page 84

DISPLAYING THE VIDEO TAB CAMERA OPTIONS

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To access the Video section camera options:

1. From the main menu, select Setup and press Enter/Shift. As an alternative, press. The Setup window is displayed.
2. On the Control Pad, use the joystick to select the Devices tab.
3. Select a camera in the Devices list, and then select the Video tab. Refer to Figure 70. If necessary, press to expand the device tree to see the camera device you need.

MODIFYING THE VIDEO SETTING LEVELS

Each video color setting has two modes: Auto and Manual. A slider control is used in the Manual mode to adjust each setting. If the option you want to adjust is set to Auto, the slider control is unavailable. By default, all settings are set to Auto.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To manually set levels:

1. If it is not already open, select the Video tab for a camera on the Devices tab of the Setup window. For information about displaying Video tab for cameras, refer to *Displaying the Video Tab Camera Options* on page 83.
2. Navigate to the setting that you want to adjust, and then turn the jog (inner dial) to set the mode to Manual. You cannot adjust a video setting manually if it is set to Auto.

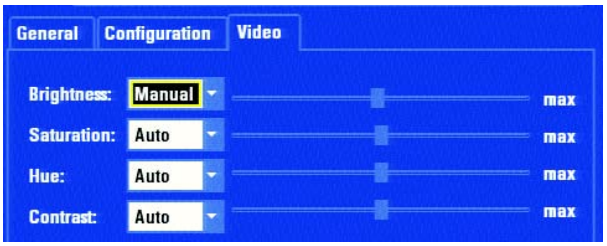


Figure 71. Video Brightness Control

3. Navigate to the scrollbar and then, move the shuttle (outer dial) counterclockwise to decrease the level. Move it clockwise to increase the level.
4. Navigate to the next setting and repeat this step.
5. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel. The DVR5100 main application window is displayed.

MOTION DETECTION SETUP

Refer to the follow instructions to configure motion detection settings for the DVR5100:

- *Setting Up Motion Detection Zones* on page 86
- *Setting Up Alarm Severity* on page 87

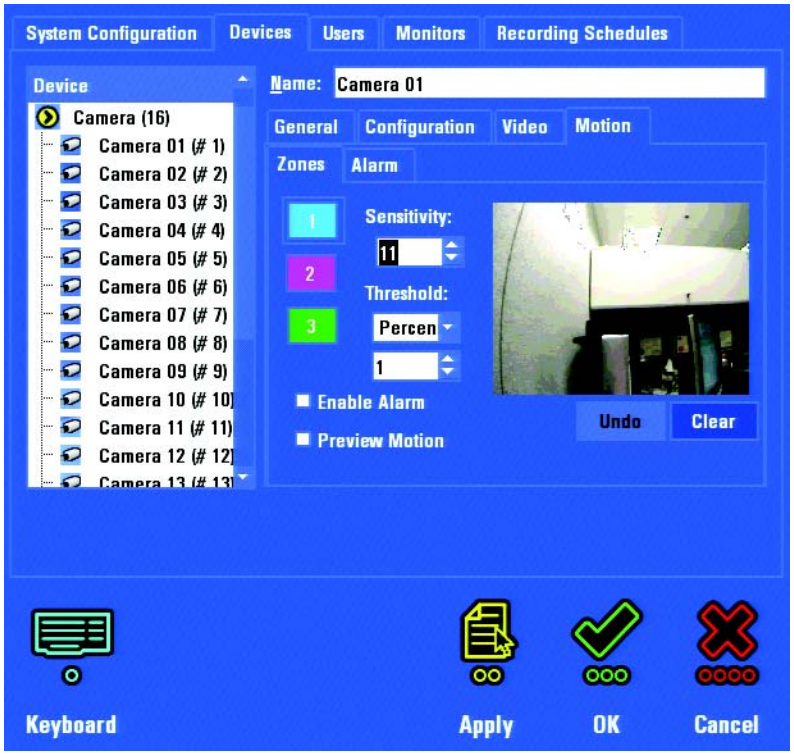


Figure 72. Camera Configuration: Motion Tab

From the DVR5100 you can configure motion detection zones and alarms settings for live and recorded video. The Motion tab provides the following tabs to configure motion detection:

- **Zones:** Use this tab to define a maximum of three overlapping regions on the screen in which to detect motion. For each zone you can set a different sensitivity level and threshold as follows:
  - **Sensitivity:** This setting determines how much or little motion is required within individual block is to trigger motion detected. Valid values are 1 (less sensitive) through 100 (very sensitive). Recommended values are 80 to 99.
  - **Threshold:** This setting determines the number of blocks or percentage of blocks that must detect motion for the alarm to be triggered. The default threshold is 1%.
  - **Enable Alarm:** Checking "Enable Alarm" determines whether alarms will be triggered by motion in the defined zone. By default this setting is not enabled.
- **Alarms:** Use this tab to determine the alarm severity that is broadcast when motion is detected in a zone. Severity levels include Minor (the default setting), Normal, Major, or Critical. This, in turn, determines which users receive notification of the alarm. You can also set the length of pre-alarm video that you want to record along with the duration of the recording after the alarm has been received. Any comments that you want to appear in the system log are also entered on this tab.

Setting Up Motion Detection Zones

NOTE: Use the front panel controls or a USB PC keyboard and mouse to set up motion detection zones.

1. If it is not already open, select the Motion tab for a camera from the Devices tab on the Setup window. If this tab is not available, select the Configuration tab, and then select the "Enable 24 hour motion recording" service. After you save the changes, the DVR5100 displays the Motion tab. This can take a few minutes.
2. Select the Zones tab if it is not already displayed. (Figure 72)
3. Select the button of the zone you want to configure, and then press Enter/Shift . You can configure a maximum of three zones. The currently selected zone button is surrounded by a pale square border.
4. Navigate to Sensitivity, and then set the sensitivity level. It is recommended that the sensitivity of the zone be set between 80 and 99.
5. Navigate to Threshold, and then set the threshold for the zone. You can select to measure the threshold by a percentage of the area or by blocks in the frame.
6. (Optional) If applicable, check the "Enable Alarms" box to ensure that an alarm is triggered by motion detection within the zone. Follow the steps at *Setting Up Alarm Severity* on page 87 to set up the alarm. Clear this check box if you do not want to associate an alarm with the motion detection settings.
7. Create or edit a zone as follows:
   - Tap the joystick to enter the preview pane, and then press Enter/Shift .
   - Tap the joystick up, down, right, or left to move to the area you want to include in the zone.
   - Press or to add or remove a block from the motion detection zone. Press these buttons repeatedly without moving to another block to increase or decrease the size of the block quickly.
   - Press Enter/Shift after the zone is completed.
   - Select the Undo command to revert back to the original settings.
   - Select the Clear command to delete all of the defined motion detection zones.

   As you create a zone, the blocks change color to indicate the zone in which they are included. The color for blocks included in zone 1 is blue, in zone 2 the color is pink, and in zone 3 the color is green.

Figure 73. Setting Up Motion Detection Zones

8. To preview the results of your motion settings, navigate to Preview Motion, and then press Enter/Shift . The motion zones flicker in the preview pane wherever motion is detected in the camera's field of view.
9. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

Setting Up Alarm Severity

Alarm severity settings must be set for each camera.

To set up alarm severity for a motion detection zone:

1. If it is not already open, select the Motion tab for a camera from the Devices tab on the Setup window. If this tab is not available, select the Configuration tab.
2. Select the "Enable 24 hour motion detection" service, and then select Apply . After you save the changes, the DVR5100 displays the Motion tab. This can take a few minutes.
3. Select the Motion tab, and then select the Alarms tab.

Figure 74. Motion Detection: Alarms Tab

4. Navigate to the Alarm severity field, and then select the option that applies to this camera. Available options include Minor [default], Normal, Major, Critical. Based on the settings for your system log, messages about the alarms will appear in the system log each time the alarm occurs.
5. Navigate to Pre-Alarm field, and then set the recording time for video that precedes an alarm. The DVR5100 records video to a buffer before saving it to the hard disk. The number of pre-alarm minutes that is specified here determines how many minutes of video before an alarm is detected that is included in a video clip. The default is five minutes (5).
6. Navigate to the Duration field, and then set the recording time for video that follows an alarm. This setting determines how long a video clip will be after motion is detected in the zones. The default is twenty minutes (20).
7. Navigate to the Comments field, and then enter the comment that you want added to the system log each time motion is detected.
8. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

DVR SETUP

Refer to the follow instructions to set up storage options for the DVR5100:

- *Displaying the EnduraStor Options* on page 89
- *Setting the Storage Time* on page 89
- *Enabling EnduraStor and Setting the EnduraStor Delay* on page 90
- *Enabling and Setting the Pruning Period* on page 90
- *Enabling and Setting the Locked Video Pruning* on page 91
- *Configuring Serial Port Settings* on page 91

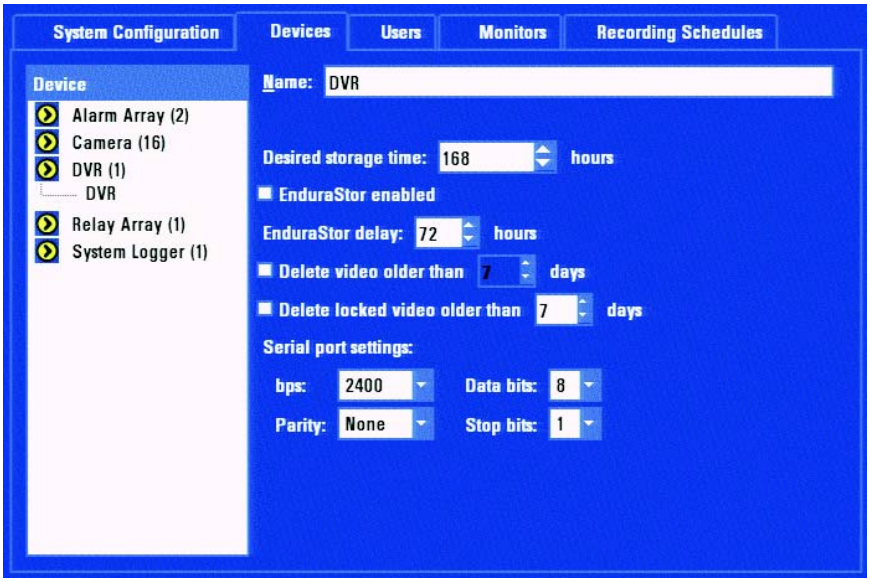


Figure 75. Configuring Devices: DVR

The DVR5100 uses EnduraStor to maximize storage on the hard disk drive. EnduraStor is a patented technology that prunes redundant data from saved video streams so that more disk space is available to store additional video. The following configuration settings are available for the DVR.

- **Name:** Text box that displays the name of the EnduraStor device. The default name is DVR. The DVR5100 allows you to modify the name.
- **Desired storage time:** Selects the desired storage time, in hours. This is the number of hours of storage you would like to retain video on the DVR5100 hard disk. If the DVR5100 is not going to be able to achieve the targeted number of hours, you will be alerted and instructed to adjust your system settings. The default value is 72 hours.
- **EnduraStor enabled:** EnduraStor device that manages DVR5100 data storage time on the hard disk.
- **EnduraStor delay:** Sets the number of days of stored video you want to retain at full size. Video recorded outside of this delay window will be compressed to make room for newly recorded video. By default, the setting is 72 hours.
- **Delete video older than:** Two controls are provided for this option:
  - Check box that enables the option.
  - A field that sets the number of days for which video will be retained before it is deleted. The default setting is seven days.

  In the case of locked video, the following policy applies:
  - If *Delete locked video older than* is disabled, only locked video is retained on the system even if it is older than the number of days you specify.
  - If *Delete locked video older than* is enabled, locked video is retained on the system for the specified number of days before it is deleted.
- **Serial port settings:** Provides settings for the RS-422 serial port to communicate with a camera. Set up serial port (only if Coaxitron is disabled on the associated camera). Table O describes settings for the serial port.
- **bps:** Selects the transmission rate (expressed in bits per second) for the port. Refer to Table O, *DVR5100 Serial Port Options and Defaults,* on page 89 for settings.

- **Data bits:** Selects the number of bits in each data packet that can be transmitted as a single unit. Refer to Table O, *DVR5100 Serial Port Options and Defaults,* on page 89 for settings.
- **Parity:** Selects whether or not parity will be enabled for data transmissions. Refer to Table O, *DVR5100 Serial Port Options and Defaults,* on page 89 for settings.
- **Stop bits:** Selects the number of stop bits for each data transmission. Refer to Table O, *DVR5100 Serial Port Options and Defaults,* on page 89 for settings.

Table O. DVR5100 Serial Port Options and Defaults

Serial Port Setting	Options	Default Value
BPS (bits per second)	110, 300, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 230400	2400
Data bits	5, 6, 7, 8	8
Parity	None, Odd, Even	None
Stop bits	1, 2	1

DISPLAYING THE ENDURASTOR OPTIONS

To display the EnduraStor setup options:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. From the main menu, select Setup and press Enter/Shift. The Setup window is displayed.
2. On the Control Pad, use the joystick to select the Devices tab, and then select the DVR category from the device list.
3. Press to expand the device tree, and then select DVR. The configuration options are displayed in the Contents pane.

Figure 76. DVR (1) Expanded

SETTING THE STORAGE TIME

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To set the storage time in hours:

1. If it is not ready open, select the Configuration tab for the DVR from the Devices tab on the Setup window. For information about displaying DVR device options, refer to *Displaying the EnduraStor Options* on page 89.
2. Navigate to the Desired Storage Time field, and then use the on-screen keyboard to select a storage time. (Refer to Figure 75 on page 88.)
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel. The DVR5100 main application window is displayed.

ENABLING ENDURASTOR AND SETTING THE ENDURASTOR DELAY

EnduraStor allows video recorded at higher frame rates to be reduced to 2 ips after a predetermined delay (period of time). This reduction in stored frames saves valuable hard disk drive space. The delay is the number of days of stored video you want to retain at full size. Video recorded outside of this delay window will be compressed to make room for more recent recorded video. The default setting is 72 hours.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To enable EnduraStor and set EnduraStor delay:

1. If it is not ready open, select the Configuration tab for the DVR from the Devices tab on the Setup window. For information about displaying DVR device options, refer to *Displaying the EnduraStor Options* on page 89.
2. Navigate to the EnduraStor enabled check box and select it. (Refer to Figure 75 on page 88.)
3. Navigate to the EnduraStor Delay field, and then use the on-screen keyboard to set the delay in hours.
4. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

ENABLING AND SETTING THE PRUNING PERIOD

EnduaStor provides a feature that will delete video older than a certain number of days. You can set the number of days for which video will be retained before it is deleted. When enabled, the DVR5100 deletes all video that is older than the retention period. To save a video recording you must lock it. Refer to the operation manual for instructions on locking video.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To enable and set the EnduraStor pruning period:

1. If it is not ready open, select the Configuration tab for the DVR from the Devices tab on the Setup window. For information about displaying DVR device options, refer to *Displaying the EnduraStor Options* on page 89.
2. Navigate to the Delete Video Older Than check box and select it. (Refer to Figure 75 on page 88.)
3. Navigate to the Delete Video Older Than field, and then use the on-screen keyboard to set the pruning time in days.
4. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

ENABLING AND SETTING THE LOCKED VIDEO PRUNING

EnduaStor provides a feature that will delete locked video older than a certain number of days.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To enable and set the EnduraStor locked video pruning period:

1. If it is not ready open, select the Configuration tab for the DVR from the Devices tab on the Setup window. For information about displaying DVR device options, refer to *Displaying the EnduraStor Options* on page 89.
2. Navigate to the Delete Video Older Than check box and select it. (Refer to Figure 75 on page 88.)
3. Navigate to the Delete Video Older Than field, and then use the on-screen keyboard to select the pruning time in days.
4. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

CONFIGURING SERIAL PORT SETTINGS

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To configure the serial port settings:

1. If it is not ready open, select the Configuration tab for the DVR from the Devices tab on the Setup window. For information about displaying DVR device options, refer to *Displaying the EnduraStor Options* on page 89.
2. Under Serial Port Settings, modify the following settings:
   - In the BPS list, select the speed. Available speeds range from 110 to 230400. The default speed is 2400.
   - In the Data Bits list, select the number of data bits. Available bit rates range from 5 to 8. The default value is 8.
   - In the Parity list, select the parity. Choices are None, Odd, and Even. The default parity setting is None.
   - In the Stop bits list, select the number for the stop bit. Choices are 1 and 2. The default stop bit is 1.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

RELAY ARRAY SETUP

Relays work much like switches. When triggered, relays can activate external devices such as a siren, light fixture, or door lock. Each relay within the array can be configured separately. A relay array is a grouping of relays that are associated with the same device in your DVR5100 network. These relays can be configured by selecting the relay array and then setting up the individual relays within the array.

Refer to the follow instructions to set up relay arrays for the DVR5100:

- *Displaying the Relay Array Options* on page 93
- *Modifying the Relay Device Name* on page 93
- *Modifying the Relay Output Name* on page 94
- *Configuring the Relay Mode* on page 94

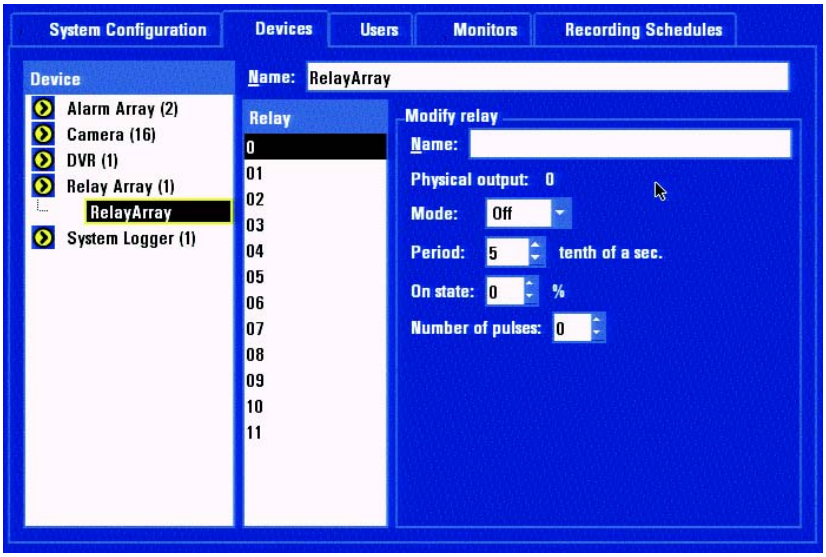


Figure 77. Devices Page: Relay Array

The DVR5100 provides the following settings for configuring relay arrays:

- **Relay Array category:** Relay Array device category that includes the relay array device. The relay array consists of up four relay outputs. The category name cannot be modified.
- **Relay:** List box that displays the number (default) or name of the relay. The entry highlighted in this box is directly associated with the physical relay output number displayed in the *Physical Input* label (*Modify Relay* area). By default, the relay outputs displayed are numbered 1 to 4. The default entries in the Relay list box are 01 to 04. When a entry is selected in the Alarm list box, the same entry is displayed in the *Modify Alarm* area's *Name* text box.

  Relay arrays outputs are supported as follows:

  - 4 or 8 channels have two relays
  - 16 channels have four relays
- **Name:** Text box that displays the name of the relay device. The default name is Relay Array. The DVR5100 allows you to modify the name.
- **Modify Relay:** The *Modify Relay* area provides options that allow you to customize parameters for each relay output.
- **Name:** A text box that displays the relay number or name. You can modify the entry displayed in this field.
- **Physical Output:** The number of the physical connector to which the relay out is connected. This number cannot be modified.
- **Mode:** This list allows you to select the relay mode as follows:
  - Off
  - On (default)
  - Toggle
  - Pulse
- **Period:** Sets the relay period. This setting defines the total time in tenths of a second (5–1,000) for the relay control pulse (10 tenths of a second is the default value).
- **On-state:** Sets the percentage of time during the defined period that the relay will be in the ON state. The default value is 50%.
- **Number of Pulses:** Sets the number of times (0–99) the relay will be pulsed (that is, placed in the ON state) during the defined period. The default setting is 5.

DISPLAYING THE RELAY ARRAY OPTIONS

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To display the Relay Array device setup options:

1. From the main menu, select Setup and press Enter/Shift. The Setup window is displayed.
2. On the Control Pad, use the joystick to select the Devices tab, and then select the Relay Array category in the device list.
3. If necessary, press to expand the device tree, and then select the relay array that you want to modify.

Figure 78. DVR (1) Expanded

MODIFYING THE RELAY DEVICE NAME

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To modify the relay device name:

1. If it is not already open, select the Configuration tab for the relay array from the Devices tab on the Setup window. For information about displaying relay array options, refer to *Displaying the Relay Array Options* on page 93.
2. Navigate to the Name field, and then use the on-screen keyboard to modify the name. Enter a user-friendly name for the relay device. Assigning a friendly name makes it easier to recognize individual devices on your network. Refer to *Renaming Devices* on page 68 for more information.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel. The DVR5100 main application window is displayed.

MODIFYING THE RELAY OUTPUT NAME

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To modify the relay output name:

1. If it is not already open, select the Configuration tab for the relay array from the Devices tab on the Setup window. For information about displaying relay array options, refer to *Displaying the Relay Array Options* on page 93.
2. Navigate to the Modify Relay Name field, and then use the on-screen keyboard to enter a user-friendly name for the relay device.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

CONFIGURING THE RELAY MODE

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To configure a relay or relay array:

1. If it is not already open, select the Configuration tab for the relay array from the Devices tab on the Setup window. For information about displaying relay array options, refer to *Displaying the Relay Array Options* on page 93.
2. Navigate to the Mode list, and then select the relay mode from the relay mode that you want to use. Options are Off, On (default), Toggle, and Pulse.
3. If you are using the pulse mode, modify the following settings:
    - Navigate to the relay period, and then select a value for the pulse. This setting defines the total time in tenths of a second (5–1,000) for the relay control pulse (1 second is the default value).
    - Navigate to the On state field, and then set the percentage of time during the defined period that the relay will be in the ON state. The default value is 50%.
    - Set the number of times (0–99) the relay will be pulsed (that is, placed in the ON state) during the defined period. Five is the default value.
4. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

SYSTEM LOGGER SETUP

Refer to the following instructions to use the System Logger options:

- *Displaying the System Logger Options* on page 96
- *Modifying the System Logger Device Name* on page 96
- *Enabling Pruning* on page 97
- *Selecting the Log Level* on page 97

The DVR5100 maintains a system log that provides an overview of daily events in the system. Each time a user logs on to the system an entry is written automatically in the system log. Other entries in the log track alarms that occur throughout the day, diagnostic information about devices, and so forth. You can also make manual entries in the system log from different locations in the system. A system log can become quite large if it is not managed properly. You can control how much information is written in the log, how often information is deleted from the log, and where the log is stored.

The figure below shows the Devices page System Logger.

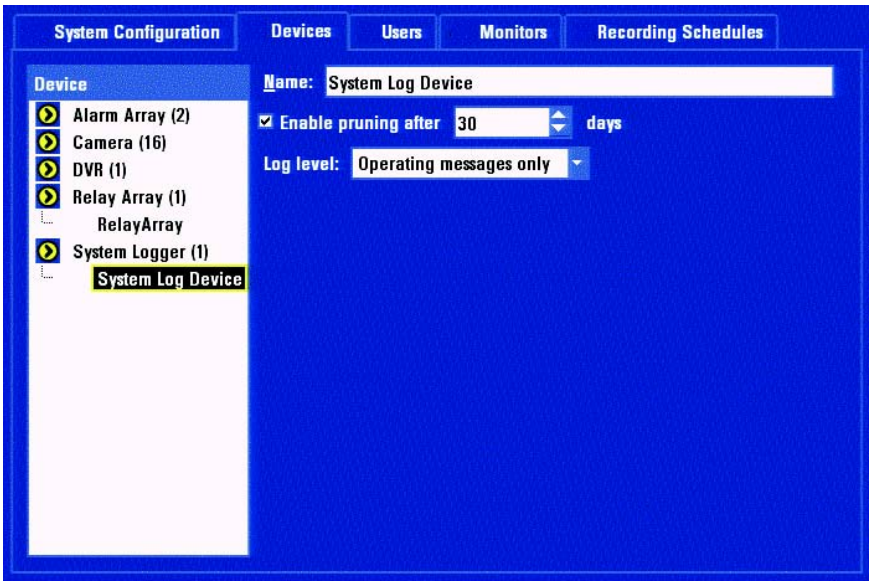


Figure 79. Devices Page: System Logger

The table below describes the parts of the Devices page System Logger.

- **System Logger:** System Logger device category that includes the system log device.
- **System Log Device:** System EnduraStor device.
- **Name:** Text box that displays the name of the EnduraStor device. The default name is System Log Device. The DVR5100 allows you to modify the name.
- **Enable Pruning After:** Two controls are provided for this option:
  - Check box that allows you to enable or disable system log pruning.
  - Field that allows you to select the time period for when system logs are pruned. By default, entries are deleted from the log after 30 days.
- **Log Level:** Selects the log level for your system log. Log level refers to the types of entries that are written in the log. Choices are:
  - **All messages:** Select this option if you want all messages written to the system log. Writing all messages to the system log means that it can grow very large. Consider pruning the log more frequently than 30 days if you choose this option.
  - **Operation messages only:** These messages track normal operations in the system and are useful for tracking regular activity in the system.
  - **Debugging messages:** These messages can help you solve problems related to devices or the network.

DISPLAYING THE SYSTEM LOGGER OPTIONS

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To display the System Logger device setup options:

1. From the main menu, select Setup and press Enter/Shift. The Setup window is displayed.
2. On the Control Pad, use the joystick to select the Devices tab, and then select the System Logger category. If necessary, press to expand the device tree.
3. Select the system log to display the configuration options for this device.

Figure 80. System Logger Expanded

MODIFYING THE SYSTEM LOGGER DEVICE NAME

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To modify the system logger device name:

1. If it is not already open, select the Configuration tab for the system logger from the Devices tab on the Setup window. For information about displaying system logger settings, refer to *Displaying the System Logger Options* on page 96.
2. Navigate to the Name field, and then use the on-screen keyboard to edit the name. Enter a user-friendly name for the system logger device. Assigning a friendly name makes it easier to recognize individual devices on your network. Refer to *Renaming Devices* on page 68 for more information.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel. The DVR5100 main application window is displayed.

ENABLING PRUNING

By default, system log entries that are older than 30 days are deleted from the log.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To enable pruning and select the pruning period:

1. If it is not already open, select the Configuration tab for the system logger from the Devices tab on the Setup window. For information about displaying system logger settings, refer to *Displaying the System Logger Options* on page 96.
2. Navigate to the Enable Pruning After check box and select it.
3. Navigate to the Enable Pruning After field, and then select the pruning period in days.
4. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

SELECTING THE LOG LEVEL

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To determine how much information is written to the log file:

1. If it is not already open, select the Configuration tab for the system logger from the Devices tab on the Setup window. For information about displaying system logger settings, refer to *Displaying the System Logger Options* on page 96.
2. Navigate to the Log Level list, and then select the log level. Choices are All messages, Operating messages only, and Debugging messages only.

   NOTE: Choose a message level that balances system performance with your ability to track issues through the system log. Writing more information to the log consumes more system resources and can appear to slow down the system.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

Users

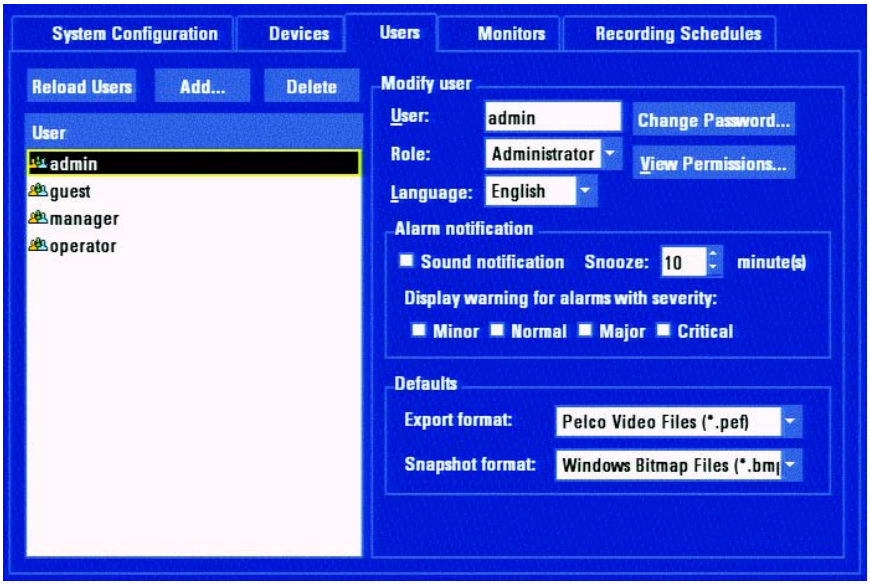


Figure 81. Users Tab

The DVR5100 allows administrators to create user profiles, assign one or more roles to each user, and set preferences for the language display, alarm notifications, and exported file formats.

The following settings are available on the Users tab:

- **User Selection Pane:** Contains the list DVR5100 users. The list of users is organized alphabetically. The Selection pane is sorted by left clicking the User column. By default, the DVR5100 provides four user groups, each assigned the permissions of its associated role. There are four user roles: Administrator, Manager, Operator, and Guest. For each of these roles, the following user IDs are available:
  - **admin:** The admin user, by default, is assigned Administrator role permissions. The admin user has access to the same features as the manager user, plus the ability to modify all options in the setup window.
  - **manager:** The manager user, by default, is assigned Manager role permissions. The manager user has access to the same features as the operator user, with the addition of being able to export and view all of the setup windows.
  - **operator:** The operator user, by default, is assigned Operator role permissions. The operator user can monitor live video and audio, reposition PTZ cameras, respond to alarms, run scripts, activate relays, search for and play back video, lock video clips, and capture snapshots.
  - **guest:** The guest user, by default, is assigned Guest role permissions. The guest user can monitor live video and audio, change layouts, and reposition PTZ cameras.
- **Reload Users:** Refreshes the list of users.
- **Add:** Add dialog box allows you to create new users. The new user is assigned the permission level of the account high-lighted in the User Selection pane. For example, if admin is high lighted, the newly created user acquires the same permissions the admin user has.
- **Delete:** Delete dialog box allows you to delete a user.
- **Modify User:** The *Modify Users* area provides options that allow you to customize parameters for each user.
- **User:** Text box that allows you to modify the selected user's name and password.
- **Change Password:** This button when clicked displays the Change Password dialog box. The Change Password dialog box allows you to change the user's password.
- **Role:** Selects a role to assign to a user. By default, there are four roles as follows:
  - **Administrator:** The Administrator role grants all permissions to perform all operation and configuration tasks.
  - **Manager:** The Manager role grants permissions to access to the same features as the Operator role, with the addition of being able to export and view all of the setup windows.
  - **Operator:** The Operator role grants permissions to monitor live video and audio, reposition PTZ cameras, respond to alarms, run scripts, activate relays, search for and play back video, lock video clips, and capture snapshots.
  - **Guest:** The Guest role grants permissions to monitor live video and audio, change layouts, and reposition PTZ cameras.
- **View Permissions:** This button when click displays the user's permissions.

- **Language:** Select the language in which the DVR application should be displayed. Only available languages are displayed. The possible list of available languages includes German, Russian, English, Italian, Spanish, French, Portuguese, Chinese, and Arabic.
- **Alarm Notification:** The *Alarm Notification* area provides options that allow you to customize how an alarm is responded to for each user.
- **Sound Notification:** Check box when selected enables sound notification in response to an alarm event.
- **Snooze:** List that allows you to set an alarm snooze time. When enabled, the DVR5100 displays an "Alarm Received" message each time an alarm occurs. You have the choice to respond as follows:
  - **Acknowledge the alarm**
  - **Select Snooze:** The alarm occurrence disappears from the window, and the snooze action (by default, 10 minutes) is recorded in the system log. After a delay, the alarm notification reappears with a clock icon indicating that the alarm was previously snoozed.
- **Display Warning for Alarms with Severity:** Allows you to select the severity for each alarm. The severity determines how alarms are announced and which users receives the announcement. Options include Minor, Normal, Major, and Critical.
- **Defaults:** The *Defaults* area provides options that allow you to select the export and snapshot format for each user.
- **Export Format:** List of file formats for exporting recorded video. Options are Pelco Video Files (*.pef) and Windows Bitmap Files (*.bmp). the default file format is .pef.
- **Snapshot Format:** List of file formats for exporting snapshots. Options are Windows Bitmap Files (*.bmp), JPEG Files (*.jpeg, *.jpg), and Portable Network Graphics Files (*.png). The default file format is .bmp.

MODIFYING THE USER SETTINGS

The DVR5100 allows users with Administrator role permissions to configure user settings. If you are an administrator, refer to the following instructions to modify user settings:

- *Displaying the Users Options*, below
- *Adding New Users*, below
- *Deleting Users* on page 101
- *Modifying a User Name* on page 101
- *Changing a User Password* on page 102
- *Assigning a Role to a User* on page 103
- *Configuring Alarm Notification* on page 103
- *Selecting the Export and Snapshot Format* on page 104

DISPLAYING THE USERS OPTIONS

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To display the list of users and configuration settings:

1. From the main menu, select Setup and press Enter/Shift . The Setup window is displayed.
2. On the Control Pad, use the joystick to select the Users tab, and then select the user that you want to modify. The user properties are displayed in the Contents pane.

ADDING NEW USERS

If you are an administrator you can create new users and assign new passwords. The DVR5100 automatically converts letters in a password to numbers. Follow these guidelines when you create a user name or password:

- **User name:** Use letters, numbers, and spaces. Do not use symbols or other special characters.
- **Password:** Use letters, numbers, and spaces. Do not use symbols or other special characters.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To add a new user:

1. If it is not already open, display the Users tab from the Setup window. Refer to *Displaying the Users Options*, above for specific instructions.
2. Navigate to the Add command, and then Enter/Shift. The Add User screen appears.

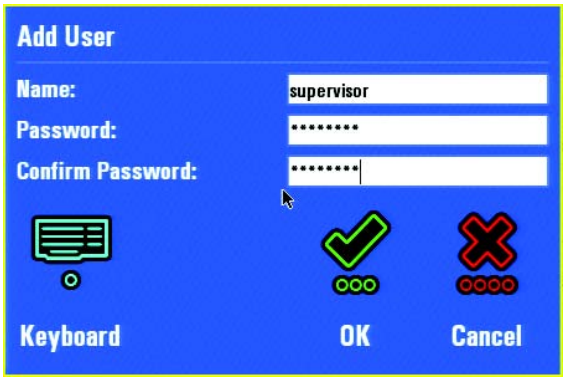


Figure 82. Add User Dialog Box

3. Provide the following information for the user in the appropriate:
   - Name: Enter a unique user name.
   - Password: Enter a password.
   - Confirm Password: Re-enter the password exactly as you entered it in the Password field.

   You can press to use the on-screen keyboard to enter information in each field.
4. Navigate to the OK button , and then press Enter/Shift to accept the user settings. The Add User dialog box is closed and the new user is added to the user list.
5. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

DELETING USERS

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To remove a user:

1. If it is not already open, display the Users tab from the Setup window. Refer to *Displaying the Users Options*, above for specific instructions.
2. On the Users page, select the user to be deleted.
3. Navigate to the Delete command and then press Enter/Shift . A confirmation message appears.

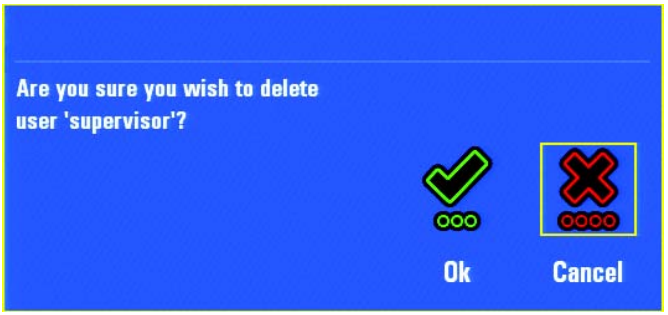


Figure 83. Delete User Dialog Box

4. Select OK to delete the user. Select Cancel to close the message box without deleting the user.
5. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

MODIFYING A USER NAME

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To edit a user profile:

1. If it is not already open, display the Users tab from the Setup window. Refer to *Displaying the Users Options* on page 99 for specific instructions.
2. Select a user from the list. The user's settings are displayed in the Modify User area.
3. Navigate to the User field, and then use the on-screen keyboard to edit the name.
4. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

CHANGING A USER PASSWORD

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To edit a password:

1. If it is not already open, display the Users tab from the Setup window. Refer to *Displaying the Users Options* on page 99 for specific instructions.
2. Select a user from the list. The user's settings are displayed in the Modify User area.
3. Navigate to the Change Password command and select it. The Change Password screen appears.

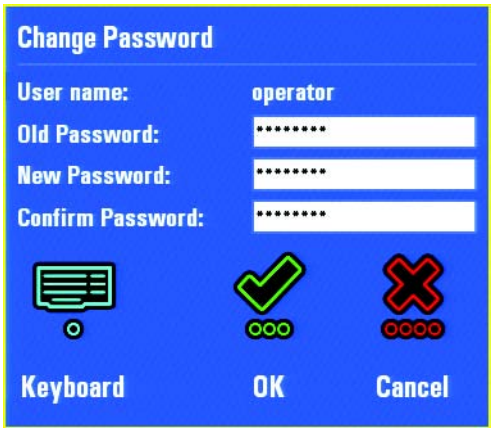


Figure 84. Change Password Screen

4. Use the on-screen keyboard to modify the password as follows:
   a. Enter the old password.
   b. Enter the new password.
   c. Re-enter the new password.
5. Select OK to save the password changes, or select Cancel to close the Change Password screen without saving a new password.
6. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel. The DVR5100 main application window is displayed.

ASSIGNING A ROLE TO A USER

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To assign a role to a user:

1. If it is not already open, display the Users tab from the Setup window. Refer to *Displaying the Users Options* on page 99 for specific instructions.
2. Select a user from the list. The user's settings are displayed in the Modify User area.
3. Navigate to the Role list, and then select a role. Be sure to select a role that provides permissions to the features of the system that this user needs. For example, if the user must review diagnostic information about devices including the DVR, you should select the Administrator or Manager role. For more information about creating and modifying roles, refer to the operation manual for the DVR5100 Remote Client application.
4. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

CONFIGURING ALARM NOTIFICATION

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To configure alarm notification:

1. If it is not already open, display the Users tab from the Setup window. Refer to *Displaying the Users Options* on page 99 for specific instructions.
2. Select a user from the list. The user's settings are displayed in the Modify User area.
3. Under Alarm notification, navigate to the following options and select the notification settings that apply for the selected user.
   - **Sound notification:** Check the Sound Notification box to alert this user with an audible sound each time an alarm occurs. To disable sound notification, clear the Sound Notification check box.
     - **Snooze:** Select the number of minutes before alarms will re-appear on the Alarm notification screen.
     - **Alarm severity:** Check the severity levels for which this user wants to receive notifications. Check all severity levels that apply.
4. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

SELECTING THE EXPORT AND SNAPSHOT FORMAT

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To select the export and snapshot format:

1. If it is not already open, display the Users tab from the Setup window. Refer to *Displaying the Users Options* on page 99 for specific instructions.
2. Select a user from the list. The user's settings are displayed in the Modify User area.
3. Navigate to the Export format field, and then select an export format.
4. Navigate to the Snapshot Format field, and then select a format for snapshots.
5. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel. The DVR5100 main application window is displayed.

VIEWING USER PERMISSIONS

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To view user permissions:

1. If it is not already open, display the Users tab from the Setup window. Refer to *Displaying the Users Options* on page 99 for specific instructions.
2. Select a user from the list. The user's settings are displayed in the Modify User area.
3. Navigate to the View Permissions command, and then press . The User Permissions screens appears.

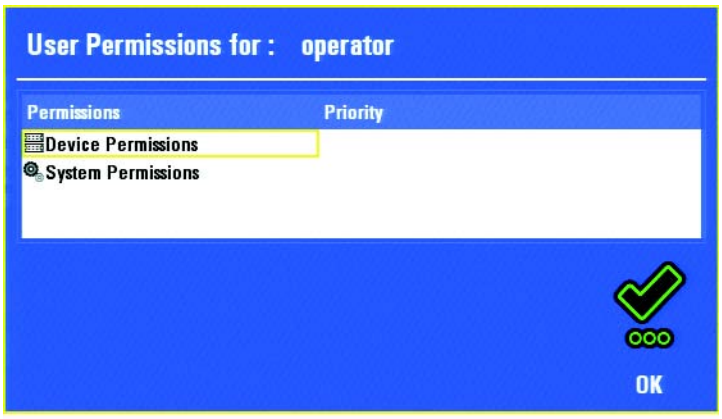


Figure 85. User Permissions Screen

4. Review the list of permissions for the user, and then select to close the screen. You cannot modify the permissions on this screen. To add or delete permissions refer to *Assigning a Role to a User* on page 103. To set up a role with additional permissions, you must log on to the DVR5100 Remote Client Application.

Monitors

If you are an administrator, you can configure a primary and spot monitor. Refer to the following instructions to modify monitor settings:

- *Displaying the Monitors Options* on page 106
- *Selecting the Primary Monitor Format* on page 106
- *Setting Up the Spot Monitor* on page 106

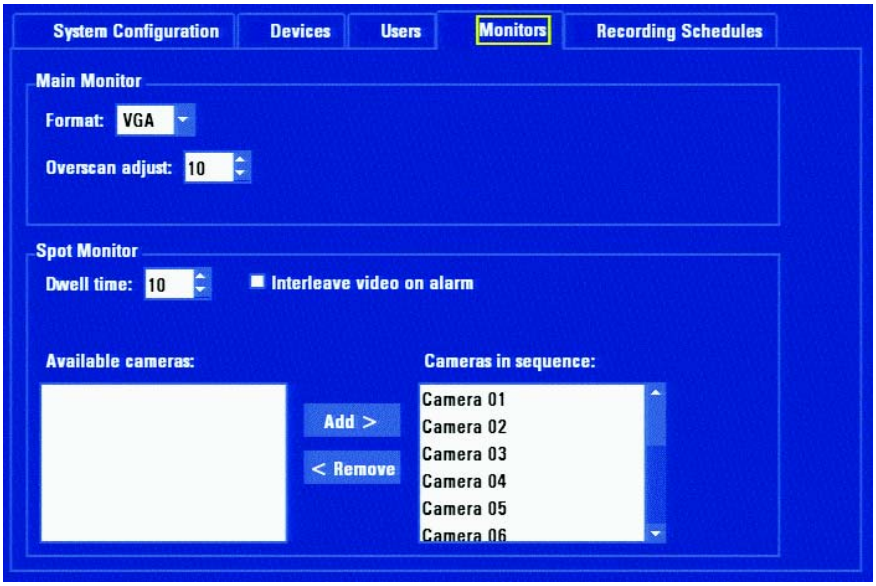


Figure 86. Monitors Tab

The following configuration settings are available for monitors:

- **Main Monitor:** The *Main Monitor* area provides options that allow you to configure the primary monitor, and includes the following options:
  - Format
  - Overscan Adjust
  - Display Date/Time
  - Display Name
  - Display Alert
- **Format:** Lists the available monitor formats: VGA, NTSC, PAL.
- **Overscan Adjust:** Adjusts overscan of the image in relation to the border surrounding the video pane. By default, overscan is set to 10%.
- **Spot Monitor:** The *Spot Monitor* area provides the following options:
  - Dwell Time
  - Interleave Video On Alarm
  - Available Cameras
  - Cameras In Sequence
  - Add
  - Remove
- **Dwell Time:** Selects the time in seconds that video from each selected camera is displayed on the spot monitor.
- **Interleave Video on Alarm:** Check box that when selected, causes alarm video to be interleaved with normal video displayed on the spot monitor.
- **Available Cameras:** List of available cameras that can be added to the sequence.
- **Cameras In Sequence:** List of cameras that are displayed on the spot monitor.
- **Add/Remove:** Command buttons that let you add to the sequence list or delete cameras from the sequence list.

DISPLAYING THE MONITORS OPTIONS

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To access the Monitors page options:

1. From the main menu, select Setup and press Enter/Shift . The Setup window is displayed.
2. On the Control Pad, use the joystick to select the Monitors tab.
3. Use the jog to select an option.

SELECTING THE PRIMARY MONITOR FORMAT

NOTE: If you are setting up a primary monitor for the first time, refer to *About Setting Up the DVR5100 for the First Time* on page 44.

To select the primary monitor format:

1. If it is not already open, display the Monitors tab from the Setup window. Refer to *Displaying the Monitors Options*, above.
2. Under Main Monitor, navigate to Format, and then use the jog (inner dial) to select the primary monitor format. The default monitor format is VGA.
3. Navigate to Overscan Adjust, and then select the percentage that applies to your monitor.
4. Select the overscan percent.
5. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

SETTING UP THE SPOT MONITOR

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To set up the spot monitor:

1. If it is not already open, display the Monitors tab from the Setup window. Refer to *Displaying the Monitors Options* on page 106.
2. Under Spot Monitor, navigate to Dwell Time, and then select the time that channel displays are rotated in sequence on the spot monitor.
3. If necessary, check the Interleave Video On Alarm box. When this option is selected, both alarm video and normal video can be displayed on the spot monitor. To disable this feature, clear the check box.
4. Select cameras to be included in the sequence list. Select a camera in the Available Cameras list, select the Add button, and then press Enter/Shift . The camera moves to the Cameras in Sequence list. As an alternative, press the Plus button to add the selected camera to the list.
5. Remove a camera from the Cameras In Sequence list. Select a camera in the Cameras In Sequence list, select the Remove button, and then press Enter/Shift . The camera moves to the Available Cameras list. As an alternative, press the Minus button to remove the selected camer from the list.
6. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

Recording Schedules

The DVR5100 is configured by default to record video from all cameras 24 hours a day, 7 days a week. To optimize your storage capacity, you can do the following:

- Set up schedules to activate recording for specific cameras at certain dates and times.
- Set up a recording schedule that is activated when specific events occur. For example, you might create a recording based on event groups, alarms related to a specific camera, and motion detection on certain cameras.

You must configure event groups, alarms or motion detection settings before you can include them in recording schedules. Event groups must be set up while you are logged on to the DVR5100 Remote Client application. For more information about setting up event groups, refer to the DVR5100 Remote Client Software manual. For more information about setting up alarms or motion detection on cameras, refer to the *Alarm Array Setup* on page 70 and *Relay Array Setup* on page 92.

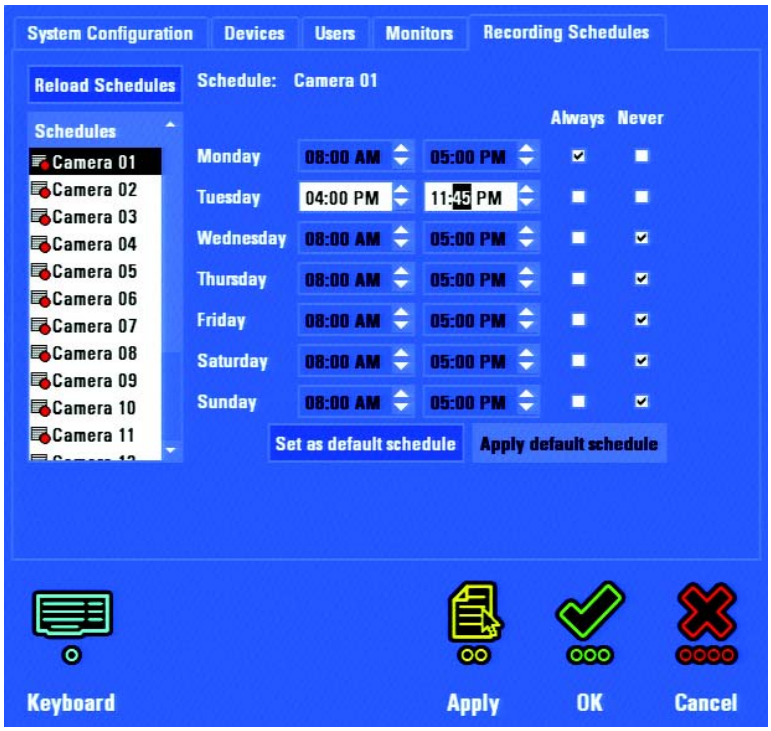


Figure 87. Recording Schedules Page

If you are an administrator, you can configure recording schedules. The Recording Schedules tab provides the following settings and commands:

- **Schedules:** Schedules Selection pane list box that contains all DVR5100 schedules. By default, there are two types of schedules displayed:
  - Standard recording schedule
  - Motion recording schedule
- **Reload Schedules:** This button updates recent changes to the DVR5100 schedules.
- **Schedule name:** The name of the currently selected schedule.
- **Schedule date and time area:** This area displays the name of the camera selected in the Schedules Selection pane and displays the start and end time for each day of the week.
- **Always:** Check this box run a recording schedule for an entire 24-hour day.
  - **Selected:** By default, this option selected. The default recording time for all cameras is Always (24 hours).
  - **Not selected:** If the check box is not selected, the start and stop time can be set for each camera. The time range is 12:00 AM to 11:59:59 PM.
- **Never:** Check this box to disable recording for the specific day.
- **Set As Default Schedule:** Select this command to store the schedule for the current camera as the default schedule.
- **Apply Default Schedule:** Select this command to reset all cameras to the default schedule.

WORKING WITH RECORDING SCHEDULES SETUP OPTIONS

Refer to the instructions below to set up recording schedules:

- *Displaying the Recording Schedules Options* on page 108
- *Setting Up a Recording Schedule* on page 108
- *Creating a Default Schedule* on page 109
- *Applying the Default Schedule* on page 109
- *Disabling a Recording Schedule* on page 109

DISPLAYING THE RECORDING SCHEDULES OPTIONS

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To access the Recording Schedules configuration options:

1. From the main menu, select Setup and press Enter/Shift . The Setup window appears.
2. On the Control Pad, use the joystick to select the Recording Schedules tab. The Recording Schedules page appears (refer to Figure 87 on page 107).
3. Navigate to the schedule selection list, and then select a camera. The recording schedule for the selected camera appears in the Contents pane.

SETTING UP A RECORDING SCHEDULE

By default, all cameras are set to record all day. The daily recording options are unavailable when "All Day" is selected.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To set up a recording schedule:

1. If it is not already open, display the Schedules tab from the Setup window, and then select a camera recording schedule. Refer to *Displaying the Recording Schedules Options* on page 108.
2. For each day of the schedule, modify the settings as follows:
   - To record all day, select Always. To record for only a portion of the day, clear the Always check box.
   - Move to the start time, and then select the beginning time of the recording schedule. Use the on-screen keyboard to select a different start time. This applies to days on which you intend to record for only a portion of the day.
   - Move to the stop time, and then select the ending time of the recording schedule. Use the on-screen keyboard to select a different ending time. This applies to days on which you intend to record for only a portion of the day.
   - To disable recording for an entire day, select the Never check box. You must clear this selection if you decide to set up a recording schedule for any day for which this option is selected.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.
4. Repeat this process for each camera for which you want to create a schedule. You can set a schedule as a default schedule and then set up a schedule with the default settings. To do so, follow the instructions in *Creating a Default Schedule*, below. To apply a default schedule to a camera, follow the instructions in *Applying the Default Schedule* on page 109.

CREATING A DEFAULT SCHEDULE

Any recording schedule can be used as the default schedule. To establish a default schedule, create a recording schedule according to the instructions in *Creating a Default Schedule*, above. Then follow these instructions to set it as the default schedule.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. If it is not already open, display the Schedules tab from the Setup window, and then select a camera recording schedule. Refer to *Displaying the Recording Schedules Options* on page 108.
2. Navigate to the Set As Default Schedule button, and then press Enter/Shift .
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

APPLYING THE DEFAULT SCHEDULE

If you have set up a default recording schedule, you can apply its settings to any camera recording schedule.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. If it is not already open, display the Schedules tab from the Setup window, and then select a camera recording schedule. Refer to *Displaying the Recording Schedules Options* on page 108.
2. Navigate to the Apply Default Schedule button, and then press Enter/Shift . The default schedule is applied to the selected camera.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

DISABLING A RECORDING SCHEDULE

To disable a recording schedule for a camera:

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

1. If it is not already open, display the Schedules tab from the Setup window, and then select a camera recording schedule. Refer to *Displaying the Recording Schedules Options* on page 108.
2. For each day of the schedule, clear the Never check box by pressing Enter/Shift . The DVR5100 will not record video on this day for the selected camera. You must disable recording for each day of the schedule if you want to stop recording all video from the camera.
3. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

Administering the DVR5100

Only an administrator or someone with administrator privileges can configure the DVR5100. The following topics are discussed in this section.

- *Updating DVR5100 Software*
- *Troubleshooting*
- *Default Settings for the DVR5100 System*
- *Specifications*

Updating DVR5100 Software

To update the software on the DVR5100, you must have a CD that contains a newer version of the software than the one you are currently running. To obtain an update CD, contact a Pelco representative or visit the Pelco web site (www.pelco.com) to download the updated application directly. Follow the procedures below to install the updates on your unit.

TIP: You can use an optional KBD5000 keyboard or a USB PC keyboard and mouse to perform some setup tasks more easily. Refer to *Understanding DVR5100 Controls and Menus* on page 31 for a comparison on using any of these devices to work with the on-screen menus.

To update the software:

1. Place the update CD in the CD-ROM drive on the front panel of the DVR5100.
2. Press on the front panel controls to display the main menu. If necessary, select the Back button to return to the main menu.
3. Select Setup . The Setup window appears. Select the System Configuration page.

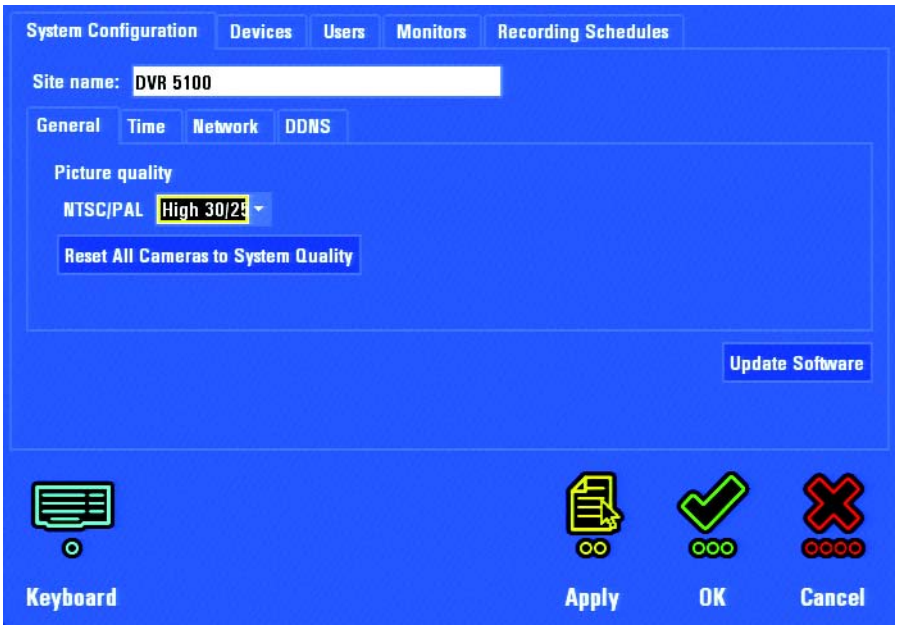


Figure 88. Updating Software

4. Navigate to the Update Software command, and then press Enter/Shift .

5. Select Apply to save your changes and continue working with settings on this page. Select OK to save your changes and close the page. To retain the original settings, select Cancel . The DVR5100 main application window is displayed.

Troubleshooting

The DVR5100 reports diagnostic information about the unit regularly. Users with permissions to view system configuration information can view diagnostic information. You can also review the messages in the system log for alarms that might indicate there is a problem with your system. To review this information, you must log on to the DVR5100 Remote Client application. Follow the instructions in the operations manual for the DVR5100 Remote Client application for information on viewing properties, diagnostics, and the system log. If those instructions do not resolve your problem, contact Pelco Product Support at 1-800-289-9100 for further information. Have the serial number from the label on the front panel of the unit and the software version from the online help screen available when you place your call.

Do not try to repair the unit yourself. Opening it voids any warranty immediately. Maintenance and repairs should be handled only by qualified technical personnel. Exchange a defective unit or return it for repair.

Default Settings for the DVR5100 System

By default, the DVR5100 is configured with several user accounts and recording schedules to fit most needs. For a list of default settings, refer to the following sections

- *System Configuration* on page 113
- *Devices* on page 114
- *Users* on page 116
- *Monitors* on page 118
- *Recording Schedule* on page 118

SYSTEM CONFIGURATION

The System Configuration page contains the following default settings. If a setting is blank, no default setting is provided.

- **Site Name:** DVR 5100

GENERAL SETTINGS

- **Picture Quality:** Low 30/25

TIME SETTINGS

- **Time Server IP:** No default setting
- **Date:** Current date on System clock
- **Time:** Current time on System clock
- **Time Zone:** Pacific Standard Time (PST)

NETWORK SETTINGS

- **Network Addressing:** Automatic
- **Static IP:** 192.168.100.1
- **Subnet Mask:** 255.255.255.0
- **Default Gateway:** 192.168.100.1
- **DNS Server:** No default setting
- **Mail Server IP:** No default setting
- **Remote Logon:** Disabled
- **Default Access Key:** Varies for each system
- **Enable SSH:** Disabled

DDNS SETTINGS

- **Enable DDNS Service:** Disabled
- **Services:** www.dnspark.com
- **DDNS:** No default setting
- **User:** No default setting
- **Password:** No default setting
- **Enable VPN Connections:** Enabled
- **TCP Port:** 27235

DEVICES

Each device category contains a specific set of default settings. Refer to the following sections for a list of default settings for these device categories.

- *Alarms*, below
- *Cameras* on page 114
- *DVRs* on page 115
- *Relays* on page 116

ALARMS

The DVR5100 provides one alarm input for each camera input. The default settings are repeated for alarms 1 through 16.

- **Name:** AlarmArray
- **Alarm name:** No default setting
- **Alarm number:** 1 to 16
- **Camera Association:** No default setting
- **Physical input:** 0
- **Alarm number:** 0
- **Silence alarm:** Enabled
- **Supervised:** Disabled
- **Severity:** Normal
- **Polarity:** Normally Open
- **Dwell time:** 5 tenths of a second
- **Follow the input:** Enabled
- **Comments:** No default setting

CAMERAS

General Settings

The DVR5100 can support up to 16 camera inputs. Each camera has the following default settings.

- **Name:** Camera 01
- **Camera number:** 1 (16)
- **Camera type:** Fixed
- **PTZ control mode:** Disabled
- **Address:** 1
- **Camera groups (multi-valued):** No default setting

Configuration Settings

- **Covert camera:** Disabled
- **Video termination:** Enabled
- **Motion detection:** Disabled
- **Audio:** Disabled
- **Noise filter:** Low
- **Multicast:** Enabled
- **Unicast:** Disabled
- **Picture quality:** Use system settings
- **NTSC/PAL:** Unavailable

Video Settings

- **Iris (Auto or Manual):** Auto
- **Focus (Auto or Manual):** Auto
- **Iris Manual Setting:** 50
- **Focus Manual Setting:** 50
- **Brightness (Auto or Manual):** Auto
- **Saturation (Auto or Manual):** Auto
- **Hue (Auto or Manual):** Auto
- **Contrast (Auto or Manual):** Auto
- **Brightness Manual Setting:** 50
- **Saturation Manual Setting:** 50
- **Hue Manual Setting:** 50
- **Contrast Manual Setting:** 50

Motion Settings

- **Enable 24-hour motion recording:** Disabled
- **Alarm comments:** No default setting
- **Zone 1 sensitivity:** 100
- **Zone 1 threshold (percent or blocks):** Percent
- **Zone 1 threshold:** 1
- **Zone 1 enable zone alarm:** Disabled
- **Zone 2 sensitivity:** 100
- **Zone 2 threshold (percent or blocks):** Percent
- **Zone 2 threshold:** 2
- **Zone 2 enable zone alarm:** Disabled
- **Zone 3 sensitivity:** 100
- **Zone 3 threshold (percent or blocks):** Percent
- **Zone 3 threshold:** 1
- **Zone 3 enable zone alarm:** Disabled
- **Alarm severity:** Minor
- **Pre-Alarm recording:** 5 (five minutes)
- **Duration:** 20 (twenty minutes)

DVRS

- **Name:** DVR
- **Desired storage time:** 168 hours
- **EnduraStor enable:** Disabled
- **EnduraStor delay:** 72 hours
- **Delete video older than:** 7 days
- **Serial port settings:** No default setting
- **bps:** 2400
- **Parity:** None
- **Data bits:** 8
- **Stop bits:** 1

RELAYS

The DVR5100 provides up to 11 relays. The default settings are repeated for relays 1 through 11.

- **Name:** DVR RelayArray
- **Relay number:** 1 to 11
- **Modify relay:** No default setting
- **Name:** No default setting
- **Physical input:** 0
- **Mode:** Off
- **Period:** 5 tenths of a second
- **On state:** 0%
- **Number of pulses:** 0

USERS

The DVR5100 provides default users for an administrator, manager, operator, and guest. Except for their respective roles, the user settings are identical. The user category is assigned a corresponding user role. For example, a guest user is assigned a Guest role and an operator user is assigned an Operator role.

ADMINISTRATOR DEFAULT SETTINGS

- **User name:** admin
- **Password:** admin
- **Role:** Administrator
- **Language:** English
- **Alarm notification:** No default setting
- **Sound notification:** Disabled
- **Snooze:** 10 minutes
- **Display warnings for alarms with severity**
  - **Minor:** Disabled
  - **Normal:** Disabled
  - **Major:** Disabled
  - **Critical:** Disabled
- **Defaults**
  - **Export directory:** DVD drive
  - **Export format:** Pelco Video Files (*.pef)
  - **Snapshot directory:** DVD drive
  - **Snapshot format:** Portable Network Graphics Files (*.png)

MANAGER DEFAULT SETTINGS

- **User name:** manager
- **Password:** manager
- **Role:** Manager
- **Language:** English
- **Alarm notification:** No Default setting
- **Sound notification:** Disabled
- **Snooze:** 10 minutes
- **Display warnings for alarms with severity**
  - **Minor:** Disabled
  - **Normal:** Disabled
  - **Major:** Disabled
  - **Critical:** Disabled
- **Defaults**
- **Export directory:** DVD drive
- **Export format:** Pelco Video Files (*.pef)
- **Snapshot directory:** DVD drive
- **Snapshot format:** Portable Network Graphics Files (*.png)

OPERATOR DEFAULT SETTINGS

- **User name:** operator
- **Password:** operator
- **Role:** Operator
- **Language:** English
- **Alarm notification:** No default setting
- **Sound notification:** Disabled
- **Snooze:** 10 minutes
- **Display warnings for alarms with severity**
  - **Minor:** Disabled
  - **Normal:** Disabled
  - **Major:** Disabled
  - **Critical:** Disabled
- **Defaults**
  - **Export directory:** DVD drive
  - **Export format:** Pelco Video Files (*.pef)
  - **Snapshot directory:** DVD drive
  - **Snapshot format:** Portable Network Graphics Files (*.png)

GUEST DEFAULT SETTINGS

- **User name:** guest
- **Password:** guest
- **Role:** Guest
- **Language:** English
- **Alarm notification:** No default setting
- **Sound notification:** Disabled
- **Snooze:** 10 minutes
- **Display warnings for alarms with severity**
  - **Minor:** Disabled
  - **Normal:** Disabled
  - **Major:** Disabled
  - **Critical:** Disabled

- **Defaults**
  - **Export directory:** DVD drive
  - **Export format:** Pelco Video Files (*.pef)
  - **Snapshot directory:** DVD drive
  - **Snapshot format:** Portable Network Graphics Files (*.png)

MONITORS

The DVR5100 provides default setting for a primary monitor and a spot monitor.

MAIN MONITOR:

- Format: VGA
- Overscan adjust: 5%
- Display date/time: Bottom right
- Display name: Top left
- Display alert: Bottom left

SPOT MONITOR:

- **Dwell time:** 3 seconds
- **Interleave video on alarm:** Disabled
- **Available cameras:** No default setting
- **Cameras in sequence:** All cameras are included in the sequence

RECORDING SCHEDULE

Until you create a schedule and label it as the default schedule, the DVR5100 provides the following default settings for every day of a recording schedule.

- **Start time:** 00:00:00
- **End time:** 23:59:59
- **All day:** Disabled
- **Don't record:** Disabled

Specifications

SYSTEM

Operating System	Linux
User Interface	Semitransparent on-screen

VIDEO

Video Standards		
Input	NTSC/PAL composite	
Output	NTSC/PAL S-Video, composite VGA (1024 x 768) 60 Hz capability for NTSC 75 Hz capability for PAL	
Video Coding	MPEG-4	
Video Inputs	4/8/16	
Video Resolutions	**NTSC**	**PAL**
4CIF	704 x 480	704 x 576
2CIF	704 x 240	704 x 288
CIF	352 x 240	352 x 288
Video Recording Rate	Up to 30 IPS per camera for CIF/2CIF/4CIF	
Video Inputs/Connectors	4/8/16, BNC, looping, 75 Ω, 0.5-1 Vp-p	
Video Termination	Hi-Z, 75 Ω, software controlled	
Video Display Speed	Up to 30 IPS (NTSC) or 25 IPS (PAL) per input in full screen and lower for other screen configurations	
Video Display Modes	Full screen, 2x2, 3x3, and 4x4	
Video Outputs	1 BNC, NTSC/PAL, 75 Ω, 1 Vp-p 1 S-video, NTSC/PAL 1 VGA 1 BNC, NTSC/PAL spot monitor	

AUDIO

Audio Decoding	G.711 speech codec
Audio Bit Rate	64 kbps
Audio Levels	Input: Line-level input Output: Line-level input
Audio Connectors	3.5 mm monaural jacks: three for 4 and 8 channels and five for 16 channels
Audio Inputs	2 for 4- and 8-channel models; 4 for 16-channel models
Audio Outputs	1

PTZ CONTROL

PTZ Interface	Front panel, KBD5000, through remote client, or USB keyboard
PTZ Protocols	Pelco D, Pelco P, and Coaxitron®

ALARM ARRAYS

Alarm Inputs	1 per camera, programmable, 5.0 VDC, 10 Ω, triggered, supervised/unsupervised
Relay Outputs	
4 or 8 channels	2 relays, N.O./N.C., form-C relay, 30 VDC, 1A
16 channels	4 relays, N.O./N.C., form-C relay, 30 VDC, 1A

NETWORK

Interface	Gigabit Ethernet RJ-45 port (1000BaseT)

AUXILIARY INTERFACES

USB 2.0	Three high-speed USB 2.0 ports (1 front, 2 rear)
RS-422	1 RS-422 port, programmable baud rate up to 19200

FRONT PANEL INDICATORS/FUNCTIONS

Indicators	Power: Blue Hard Disk Drive Activity: Yellow Network Activity: Green Network Status: Green, amber, red Unit Status: Green, amber, red
Buttons	Configuration/reset, Power

POWER

Power Input	100-240 VAC, 50/60 Hz, autoranging
Power Supply	Internal
Power Consumption	136 watts, 465 BTU/H (maximum)
Cable Type	1, USA standard (117 VAC, 3 prongs, 6 ft or 1.8 m) 1, European standard (220 VAC, 3 prongs, molded connector, 6 ft or 1.8 m) 1, UK standard (250 VAC, 3 prongs, molded connector, 6 ft or 1.8 m)

ENVIRONMENTAL

Operating Temperature	50° to 95°F (10° to 35°C)
Storage Temperature	-40° to 149°F (-40° to 65°C)
Operating Humidity	20% to 80%, noncondensing
Maximum Humidity Gradient	10% per hour
Operating Altitude	-50 ft to 10,000 ft (-16 m to 3,048 m)
Operating Vibration	0.25 G at 3 Hz to 200 Hz at a sweep rate of 0.5 octave/min.

PHYSICAL

Construction	Steel cabinet
Finish	Front panel: gray metallic with black end caps; chassis: black matte finish
Dimensions	17.0" (D) x 17.1" (W) x 3.5" (H) (43.2 x 43.4 x 8.9 cm)
Mounting	Desktop (feet) or rack, rack mount kit included 2 RU per unit, 1 RU between units
Unit Weight	28.8 lb (13.06 kg)
Shipping Weight	38 lb (17.24 kg)

MINIMUM REMOTE PC REQUIREMENTS

Processor	3.2 GHz Pentium® IV processor
System Memory	1 GB RAM memory
VGA Card	AGP VGA card with 128 MB RAM DirectX® 8.1 or later hardware acceleration with support for 1280 x 1024 resolution monitors
Monitor	VGA monitor with for 1280 x 1024 display resolution
Operating System	Microsoft® Windows® XP Pro

PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years on FR/FT/FS Series fiber optic products and TW3000 Series unshielded twisted pair transmission products.
- Three years on Genex® Series products (multiplexers, server, and keyboard).
- Three years on Camclosure® and fixed camera models, except the CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models, which have a five-year warranty.
- Three years on PMCL200/300/400 Series LCD monitors.
- Two years on standard motorized or fixed focal length lenses.
- Two years on Legacy®, CM6700/CM6800/CM9700 Series matrix, and DF5/DF8 Series fixed dome products.
- Two years on Spectra®, Esprit®, ExSite™, and PS20 scanners, including when used in continuous motion applications.
- Two years on Esprit® and WW5700 Series window wiper (excluding wiper blades).
- Two years (except lamp and color wheel) on Digital Light Processing (DLP®) displays. The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.
- Eighteen months on DX Series digital video recorders, NVR300 Series network video recorders, and Endura™ Series distributed network-based video products.
- One year (except video heads) on video cassette recorders (VCRs). Video heads will be covered for a period of six months.
- Six months on all pan and tilts, scanners or preset lenses used in continuous motion applications (that is, preset scan, tour and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to Pelco, Clovis, California. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental or consequential damages (including loss of use, loss of profit and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800)þ289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, Sales Order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product which does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

In order to expedite parts returned to the factory for repair or credit, please call the factory at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair).

All merchandise returned for credit may be subject to a 20% restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid. Ship to the appropriate address below.

If you are located within the continental U.S., Alaska, Hawaii or Puerto Rico, send goods to:

Service Department
Pelco
3500 Pelco Way
Clovis, CA 93612-5699

If you are located outside the continental U.S., Alaska, Hawaii or Puerto Rico and are instructed to return goods to the USA, you may do one of the following:

If the goods are to be sent by a COURIER SERVICE, send the goods to:

Pelco
3500 Pelco Way
Clovis, CA 93612-5699 USA

If the goods are to be sent by a FREIGHT FORWARDER, send the goods to:

Pelco c/o Expeditors
473 Eccles Avenue
South San Francisco, CA 94080 USA
Phone: 650-737-1700
Fax: 650-737-0933

Green The materials used in the manufacture of this document and its components are compliant to the requirements of Directive 2002/95/EC.

This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.

REVISION HISTORY

Manual #	Date	Comments
C1695M	8/06	Original version.

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